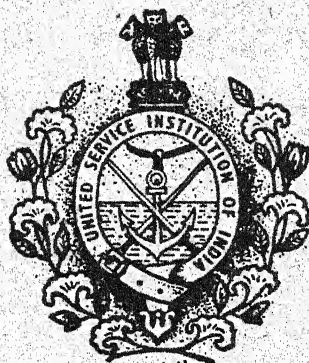


U.S.I. JOURNAL

INDIA'S OLDEST JOURNAL ON DEFENCE AFFAIRS

(Established : 1870)



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JANUARY – MARCH 1989

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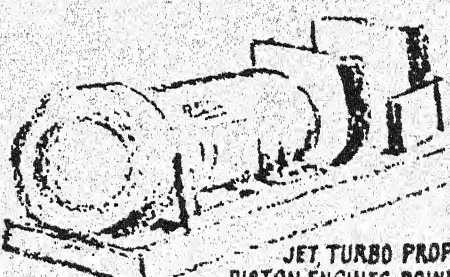
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KIRAN, HPT-32,
HTT-34 AND
DORNIER AIRCRAFT



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ISSN 0041-770X

The
Journal
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United Service Institution
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Published by Authority of the Council



(Established : 1870)

Postal Address:
KASHMIR HOUSE, RAJAJI MARG, NEW DELHI-110011
Telephone No 3015828

Vol CXIX

JANUARY-MARCH 1989

No. 495

USI Journal is published Quarterly in April, July, October and January.
Subscription per annum: In India Rs. 80.00 Foreign £10.50 or \$ 20.00 by Sea
Mail. Subscription should be sent to the Director. It is supplied free to the
members of the Institution. Articles, Correspondence and Books for Review
should be sent to the Editor. Advertisement enquiries concerning space should
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**UNITED
SERVICE
INSTITUTION
OF INDIA**

for

*the furtherance of
interest and know-
ledge in the art,
science and litera-
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NOTE

"The views expressed in the Journal are in no sense official and the opinions of contributors and the Editor in their published articles are not necessarily those of the Council of Institution".

Economics of Defence

Adam Smith, one of the first economists to examine the implications of defence expenditures, wrote in 1776: "The first duty of the state, that of protecting the society from the violence and invasion of other independent societies, can be performed only by means of a military force. But the expense, both of preparing this military force in time of peace and of employing it in times of war, is very different in the different states of society, in the different periods of improvement".

Even today the government's first and foremost responsibility is to maintain the territorial integrity and sovereignty of the country and be prepared to counter any threat to it. This can only be done by training and maintaining a well-equipped Army, Navy and Air Force. However, this business is becoming frightfully expensive as the cost of modern, state-of-the-art, defence equipment has escalated beyond all reasonable limits. The cost of a fighter plane of World War II vintage was Rs. three lakhs but now it costs Rs. thirty crores, with almost 50 percent of this cost due to avionics. The same escalation in cost applies to tanks, guns and ships.

One way out of this economic logjam is to export our major defence equipment so that the industry gets the benefits of economy of scale and the cost per unit comes down. For this to become a practical proposition, however, our industry has to achieve quality-cum-cost values which would be competitive in international arms market. No one is going to buy from us if they can get better weapon systems at lower cost and more promptly delivered from other sources.

But the country has to make a determined effort to export defence equipment. We have the know-how; the scientists, designers and engineers in plenty, and we also have the infra-structure, the laboratories, the factories and the rest. Other hurdles that are there must be removed. The state of the aviation industry needs a close look to find out why after more than 40 years of independence we are planning to import jet trainer aircraft for the Indian Air Force.

A clear lesson from the rising defence expenditure (from Rs. 168 crores in 1950-51 to Rs. 13,200 crores in 1987-88) is that without indigenous production of major weapon systems for our own use and for export (for defensive purposes only - no weapons need be sold to countries at war) our defence expenditure will continue to rise alarmingly, resulting in a progressively worsening budget and trade deficit year after year, near-checkmating a balanced economic growth and a pre-planned national development.

PRESIDENT'S REPORT FOR THE YEAR 1988

LEIUTENANT GENERAL S.F. RODRIGUES, PVSM, VSM, ADC
VICE CHIEF OF THE ARMY STAFF
AND PRESIDENT OF THE USI COUNCIL

Gentlemen, I welcome you to the USI Council meeting for 1988. I also wish to take this opportunity of extending our welcome to the new members, who have joined the Council since our last meeting.

The year 1988 has been very satisfactory for the USI, as considerable progress has been achieved in most spheres of activity. The enrolment of new members, especially of life members, has been very heartening. The Journal is being published regularly on schedule and a marked improvement has been achieved both in its get up and the quality of its articles. Lectures are being organised almost every month and the number of members using the library, for research purposes, has increased. Our finances continue to show a satisfactory improvement inspite of the increased expenditure on the staff, library and other activities. The only unhappy position continues to remain in the new USI building project. But here too I am happy to report that the allotment of a new site is at present in its final stages with the Government.

MEMBERSHIP

You will recall that at our last meeting, members had expressed grave concern over the very poor state of enrolment of new members, especially life members. It was noticed that most of the new members were those who joined the various correspondence courses and they discontinued their membership soon after completing their courses. It had then been resolved that efforts should be made to enrol new life members. Gen Harbaksh Singh had suggested that a scheme be worked out to offer a rebate on tuition fees to those who join as life-members. Based on this suggestion the Executive Committee introduced a scheme of giving a 10% rebate on the tuition fees of our courses to life members.

This scheme alongwith the efforts made by the USI staff have produced excellent results. This year until 1 Dec 88 we have had 512 life members and another 130 ordinary members have converted their membership to become life members. This figure exceeds the total enrolment of life members over the past ten years. To maintain this trend I request each of our Council members to try and enrol at least 10 life members in 1989.

FINANCES

The audited income and expenditure accounts along with the audit report are with you and I hope you have had time to examine them. In the audit report you will have noticed there are no major irregularities and suitable replies have been given to all the objections raised. Action to rectify the faults has been initiated.

The income and expenditure position of the Institution over the last three years was -

Year	Income (Rs)	Expenditure (Rs)	Surplus (Rs)
1985	5,42,079.44	2,48,062.46	2,94,016.98
1986	7,37,357.17	3,14,910.40	4,22,446.77
1987	7,07,574.91	3,04,344.59	4,03,230.32
1988 (Probable)	9,80,000.00	5,29,409.00	4,50,591.00

As in previous years, a certain portion of the interest received on investments has been transferred to various funds and has not been reflected in the income. A sum of Rs. 5,73,098.19 as against Rs. 5,04,035.58 in 1986, has been apportioned to Revision Courses Fund (Rs. 1,85,028.15), Building Fund (Rs. 2,43,898.26), Education and Training Fund (Rs. 87,927.88) and Library Fund (Rs. 56,243.90). Therefore the total surplus for 1987 is Rs. 9,76,328.51 as against Rs. 9,26,482.35 for 1986.

As on date the investment position of the Institution is -

(a) *USI Corpus Fund*

(i) Public Sector	Rs. 75,04,000.00
(ii) Nationalised Banks	Nil

(b) *Grant for Building*

Public Sector Undertaking	1,79,20,000.00
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I said last year that we needed to take note of the fact that the expenditure on running the Institution and its activities are much beyond what we receive annually from membership subscriptions. Today we are supplying each member every year four copies of the Journal costing Rs. 36/- for the 30/- we receive as annual subscriptions. This you will agree, cannot continue. We have, therefore, included on the agenda a point for increasing the subscriptions for all types of membership.

THE USI JOURNAL

This year all issues of the Journal have been despatched regularly on scheduled dates. There have been no delays. Its printing and get up have been considerably improved but at an increased cost. Due to the increased honorarium paid for articles there has been a marked improvement in their quality and there is no dearth of material sent for publication. We shall discuss this in greater detail as it has been included as a point on the Agenda.

CORRESPONDENCE COURSES

Due to the good work done by Lt Col Prem Dhawan and the staff on the courses side, candidates who had taken our correspondence courses achieved very good results. In 1988 the results of our Army candidates for the Defence Services Staff College Entrance Examination were -

- (a) Competitive vacancies - 15 out of 20 (75%)
- (b) Overall vacancies - 122 out of 235 (51.95%)

Because of these good results, the number of officers enrolling for our courses has shown a marked increase. The figures for enrolment in various courses are -

	1986	1987	1988
(a) DSSC (Army)	621	417	657
(b) Promotion Part D	325	328	527
(c) Promotion Part B	219	154	247
(d) TSC	81	49	91
(e) DSSC (Air Wing)	30	66	68

Till now we have been running courses for Army and Air Force Officers. This year Naval HQ have asked the USI to run a similar preparatory correspondence course for Naval promotion/DSSC Entrance Examination. This course will cover only one subject which is at present common to naval officers of all branches. This course syllabus has been approved by Naval HQ and detailed instructions for the course have been sent to Naval HQ who have disseminated the information to all Naval Commands.

USI BUILDING PROJECT

Unfortunately permission for construction on our land near Dhaula Kuan on the South Ridge was not forthcoming. We are in the final stages of getting an alternative piece of land on Rao Tula Ram Marg, opposite the Sig-

nals Enclave. This point has been placed on the agenda and we will discuss it in greater detail later.

ACTIVITIES OF THE USI IN 1988

National Security Lecture. Two such lectures have been held this year. The first was the 1987 lecture. A lecture on Science and National Security was delivered by Dr Raja Ramanna on 26 March 1988. The second lecture on "India, Pakistan and the USA" was delivered by Shri S Nihal Singh on 16 Nov 88. On both these occasions the functions were presided over by Shri K C Pant, the Hon'ble Raksha Mantri. We will now have to suggest a panel of names for the speakers for the 1989 National Security Lecture.

Lectures. Lectures by various eminent scholars were organised by the USI almost every month. These lectures are being published in the USI Journal -

- (a) 25 Jan 88 - Mr Carlyle Thayer from Australia on "Australia's Perception of South East Asian Security".
- (b) 20 Apr 88 - Prof G P Deshpande of JNU on "The World and China, Some Recent Perspectives".
- (c) 19 May 88 - Prof AHH Abidi, of JNU on "Recent Developments in the Gulf".
- (d) 4 Aug 88 - Dr Jack Kangas of USA on "The Status and Future of SDI".
- (e) 29 Sep 88 - Prof Kalim Bahadur of JNU on "Pakistan after Zia".
- (f) 4 Oct 88 - Prof Paul Leventhal, from USA on "Nuclear Terrorism".

Gold Medal Essay. The subjects for the 1988 Gold Medal Essay Competition have been selected by the Executive Committee. Wide publicity is being given to this Essay Competition through our Journal and through the three Service Headquarters. The enhanced cash prizes sanctioned by the Executive Committee, are also being given wide publicity.

Library. This year there has been a large increase in the number of members using the library to do research work. To improve the facilities provided at the Library, the USI had requested all Army, Naval and Air Force Commands for the grant of funds. The Army Commands have provided Rs. 1.20 lakhs while the Naval Commands and Naval HQ have provided a grant of Rs. 58,000/- against the Rs. 50,000/- requested. So far only the Air Force

have not provided any grants for the USI. The USI has procured a medium duty plain paper copier and an electric typewriter. Once the amount from the Air Force is received it is intended to procure a computer to improve upon the system of retrieval of data on library books, articles and other references.

CONCLUSION

As you will all agree, by and large, 1988 has been a very satisfactory year for the USI. It has been able to enrol a record number of new life members. Its correspondence courses have increased in popularity as is shown by the enhanced enrolment for various courses. A new correspondence course is to be started for Naval officers. The Journal has been considerably improved in its get up, printing and in the quality of the articles. It is also being despatched on time. There has been a marked improvement in the various other activities organised by the USI. Finally, its financial position continues to improve, without any let up, inspite of the increased expenditures incurred on improving the library and other facilities. There has even been progress in finding an alternative site for our building project. For all this improvement, on your behalf, I wish to congratulate all the staff of the USI especially the Training Staff and the Editor for their dedicated efforts, which have made all this possible.

Once the new site is approved and work commences, we shall have to evolve a plan to gradually step-up the activities of the USI as well as to effect a smooth change-over. Particular attention will have to be paid to the Library which will involve the planning of its lay-out and the acquisition of new book cases and facilities that will facilitate research.

I am confident that the Director and his Staff will rise to the occasion.

A National Council for Inner Space (Oceans)

VICE ADMIRAL (RETD) MIHIR ROY, PVSM, AVSM*

The earlier laws or rather customs of the seas were structured around the notions of the freedom of the seas which were based on two assumptions. Firstly, the resources of the oceans were considered inexhaustible and secondly the resources were treated as 'res-communis' which is 'belonging to all'. But in practice, this open seas concept was restricted to the privileged few who utilised the oceans as a convenient ambivalence for their own self interests to promote commerce, conversion, and colonisation and generally in that sequence!

THE OCEAN OF DESTINY

The Indian Ocean which is the smallest of the 3 oceans is almost a land-locked sea containing 36 littoral and 11 hinterland states with 3 clusters of islands - Mauritius and Malagassy; Laccadives, Maldives and Chagos; Andaman and Nicobar. In this ocean space hangs peninsular India, as it were, from the roof of the Himalayas with her 6000 miles of coastline jutting out into this embayed ocean encompassing 11 major and 162 minor ports. One fourth of the world's population lives in this region practising all the major religions of the world and with a spectrum of governments from dictatorships and monarchies to many hues of socialism and democracy. Admiral Mahan prophetically termed it as the 'Ocean of Destiny' in the 18th century when he said "whoever controlled the Indian Ocean dominated Asia. This ocean is the key to the seven seas. In the 21st century the destiny of the world will be decided on its waters".

THE EAST WIND

This exotic and highly civilized region hence attracted travellers and traders from all over the world particularly from the fourth century onwards with Adulis (Massawa) being the major entrepot followed by Zinj (Zanzibar) and Malagassy. The Tang, Sung and Ming dynasties of the celestial Chinese empire encouraged trade with East African ports for ivory, Rhinoceros, horns, copper, pearls, camphor, incense and rare animals like the giraffe, zebra and oryx. The Chinese Admiral, Cheng Ho who commanded over 62 ships and 37,000 soldiers made seven voyages to this area. But suddenly in the mid 15th century, Emperor Cheng-t'ung issued an edict prohibiting the

* Vice Admiral Mihir Roy is the first Defence Service Officer to be awarded the prestigious Jawaharlal Nehru Fellowship for 1989.

construction of ships as it was felt that such trading expeditions were wasteful and unnecessary with no great benefit to China. Hence the lofty sails were dramatically furled and the nautical knowledge and technical expertise built up over centuries were deliberately extinguished. Thereafter the Arab master mariners took over the trade until the advent of the Western Powers in the sixteenth century.

In the Bay of Bengal, the seas were used mainly for migration, conversion and cultural inroads by the Pallavas, Sailendras and Cholas propelling 'Farther India' via the States of Kambuja (Kampuchea), Champa (Thailand), Srivijaya (Malacca and Sumatra) to meet the Chinese civilisation on the banks of the Mekong river in what was aptly called Indo-China.

THE WEST WIND

It was however with Papal authority that the Portuguese opened up India when Vasco-da-Gama discovered the Cape of Good Hope route, thereby breaking the monopoly of the Arab middlemen for transporting goods via the Mediterranean. He was followed by Francisco de Almeida who vanquished the Arabian and Moghul Fleets and was granted trading facilities. But his successor, Alfonso d' Albuquerque had a different strategy. He captured the choke points of Mozambique and Kilwa, Socotra, Aden, Hormuz, Malacca and Goa in the early 16th century and sealed off the Indian Ocean to ensure Portuguese hegemony and also built fortresses, coerced subordinate alliances and encouraged mixed marriages. But with the defeat of the Spanish Armada, a period of interregnum followed with the Maharattas, Dutch and French disputing the Portuguese claim to 'exclusivity' and following it up by capturing Malacca, Java, Mauritius and Pondicherry.

But after the Battle of Trafalgar, Britain also claimed 'exclusivity' by enforcing the concept of 'res-nullius' and India became the brightest jewel in the British crown. It was only at the end of World War II when 47 littoral States gained their freedom that exhausted Britain withdrew from this arena. The Super Powers now moved in and extended their influence through arms supply, proxy governments and renting base facilities such as Diego Garcia and Bahrain.

Similarly, the Soviets entered into a reciprocal escalation for economic and security reasons and befriended nascent nations in their liberation struggles. It is interesting to observe that when the US Seventh Fleet entered the Bay of Bengal in 1971 during the Indo-Pakistan conflict, Admiral Gorshkov surfaced the Soviet Brigade of nuclear submarines in the Indian Ocean for being photographed by the American satellite in order to establish their presence in this conflict arena. Hence this 'Ocean of Peace' deteriorated into

an ~ Ocean of Tension'.

NEW OCEAN REGIME

But due to the increasing anxiety of the newly liberated countries to meet the growing needs of their people, they challenged the existing convention of having no rights beyond their territorial limits of 3 miles. Iceland fired the first salvo in the 'Cod war' against Britain to back up her claim for a 50 miles exclusive fishing zone which shocked contemporary maritime nations.

In 1973, the United Nations convened a conference on the Laws of the Seas and after nine years of negotiations, 142 nations accepted the new ocean regime which extended the Exclusive Economic Zone (EEZ) to as much as 200 miles for the conservation, management, exploration and exploitation of living and non-living resources with separate conventions for archipelagic waters, international straits, marine pollution and sea bed authority. Consequently, India peacefully acquired another two million square miles which is nearly two-thirds of her land mass and became the twelfth largest EEZ in the world. In addition, as a 'Pioneer Investor', India was also granted the right to exploit a further 150 thousand square miles in the Central Ocean for the recovery of polymetallic nodules.

FOOD, CHEMICALS AND DRUGS FROM THE SEAS

The Indian Ocean is said to contain an annual catch of 11 million tons of fish of which only one quarter is harvested. Nonetheless, the fishing industry whose production costs are less than cattle, piggery and poultry gives employment to thousands of fishermen, food processors and post harvest activities which bring in crores of rupees in foreign exchange. Hence the urgency to develop fishing harbours, construct fuel efficient trawlers, cold storages, processing plants and credit facilities to enlarge the annual catch which are still proving attractive to the trawlers from far away Taiwan, Korea, Thailand, Japan and the USSR. In addition, aqua-culture and mari-culture have significant potential as seen from the Japanese example, particularly in view of the interest shown by the world Bank and the Indian Ocean Fishery Commission (IOFC).

Among the other marine by-products, seaweeds constitute chemicals such as agar, alginates etc which are used in food, textiles and pharmaceuticals. Seaweeds and phytoplankton are also sources for anti-fertility, anti-viral, anti-bacterial and hypotensive activity. Besides marine chemicals such as salt, bromine, calcium, gypsum, and sulphur are already commercially viable.

ENERGY AND POLYMETALLIC NODULES

Off-shore oil is estimated to be 60 per cent of India's reserves. Hence

from one rig in 1973, there are to-day seven rigs off Bombay together with four seismic, 25 supply and four inspection vessels, 10 helicopters, and over 16 platforms with 600 Kms of submarine pipe line which has saved the country billions of rupees in foreign exchange.

Further harnessing of ocean energy from waves, temperature differences, tidal heights, salinity gradients and Ocean Thermal Energy Conversion (OTEC) will help to support coal, hydel, oil, gas and nuclear power in India's bid to resolve the energy crisis.

The sea bed of the Pacific and Indian Oceans are said to be strewn with trillions of polymetallic nodules like a 'windfall of apples' containing manganese, copper, nickel, iron, aluminium, cobalt, lead, molybdenum, silver, gold and other metals which will last for centuries as against the land reserves of 50 years.

DATA, TECHNOLOGY & HUMAN RESOURCES

The route to these new sources of energy, minerals and food necessitates a hop, step and jump in the trichotomy of materials, instrumentation and environment. The need for self-reliance and selective import of adaptive technology relating to submersibles, seabed mining, corrosion, acoustic tomography and remote sensing presupposes an expanded and centrally located ocean data system linked to the World Data Centre (WDC). The creation, therefore, of a self-reliant technological base which is the key to ocean development is in turn dependent on the availability of more ocean based disciplines in universities and IITs to achieve a scientific spurt comparable to the 'green revolution'. There is, therefore, an urgent requirement to establish an Institute of Marine Technology to augment human resource development in this decade of the seas. The Norwegian Institute at Trondheim, The Sea Grant College Programme of the USA and the Ocean University in Beijing merit a careful study.

SEA TRANSPORTATION AND CONFLICT MANAGEMENT

Cargo transportation by sea is the cheapest mode of transport. More than a lakh of merchant ships continuously ply the oceans transporting nearly 140 million tons of cargo annually to Indian ports. Port development, modernisation, containerisation, inland waterways as also simpler procedures for customs, stevedoring and tariff structures require early implementation.

With regard to conflict management, maritime strategy has much wider ramifications than continental strategy as the oceans have far reaching international repercussions - political, military and economic. The indivisibility of the seas has enabled external powers to base their floating missile platforms

not only in international waters but also within confined waters which in turn has tended to fuse continental and maritime strategies. Therefore sea power is said to be the flexible trip wire for maritime security as seen in the Seychelles, Mauritius, Sri Lanka, Fiji and the Maldives.

ATMOSPHERE, OCEAN HEALTH AND ANTARCTICA

With 5 billion people on earth releasing 18 billion tons of carbon dioxide into the atmosphere together with CFC (Chloro Fluro Carbons) from refrigeration and aerosol systems, a 'hot house' effect is influencing the precipitation patterns. The result is warmer climate, rising sea levels, drought conditions and the depletion of the ozone layer which in time will cause catastrophic damage to the earth's atmosphere.

Again due to the population growth and industrial activity along rivers, estuaries and the coast, the waters are being polluted with sewage and industrial wastes as also by thermal and oil pollution. The oceans are fast becoming a dust-bin for human refuse which is not only threatening living resources but also affecting the multi-million leisure and tourist industries. UNDP has undertaken the Regional Seas Programme in order to improve coastal waters management by monitoring and controlling air, sea and land pollution.

The Continent of Antarctica is the main 'heat sink' of the oceans and contains not only three-fourths of the world's fresh water resources but also has large reserves of minerals and shrimps termed Krill which constitute the basic food for this ecosystem. It is, therefore, necessary that when the Antarctica Treaty comes up for review in 1991, India being the only treaty member from this region, should ensure that the benefits of this fabulous ice continent are not confined to a few affluent nations but are available to developing countries.

NATIONAL COUNCIL FOR INNER SPACE

The oceans have therefore become a fish-pond, rubbish tip, resource mine, international highway and self-effacing battlefield. The key to a dynamic ocean policy will depend on India's ability to marry sophisticated technology with high finance in order to exploit the EEZ which is perhaps the 'panchayati raj' of our ocean regime for both 'garibi hatao' and 'Bekari hatao'. Hence it is necessary to coordinate and harmonise the wide spectrum of ocean activities which in most countries are vested in five to 15 ministries such as India's Surface Transport, Agriculture, Food Processing, Mines, Defence, Revenue, External Affairs, Science and Technology, Environment, Law, Atomic Energy, Off-shore Oil, Natural Gas and Ocean Development. Sri Lanka's National Aquatic Resources Agency (NARA), America's Nation-

al Oceanic and Atmospheric Organisations, France's Ministry of Oceans, Pakistan's National Maritime Affairs Coordination Committee and India's Ocean Science & Technology Agency (OSTA), which sadly lacks muscle, are some of the institutions for coordinating multi-disciplinary ocean activities which are particularly crucial for developing countries in view of their inherent resource crunch. China, on the other hand, has managed to forge ahead after a comparatively late start by putting all ocean activities under one roof in Beijing.

It is, therefore, for consideration that a National Council be constituted for Inner Space (Oceans) under the Chairmanship of the Prime Minister on the same lines as the National Development Council (NDC), Island Development Authority (IDA) or Council for Scientific & Industrial Research (CSIR) with the existing ministries taking sectorial responsibilities for their allotted tasks. This arrangement could be on a three tier structure for policy formulation; planning and coordination; and monitoring and implementation for a wide spectrum of activities, excluding Defence, for more effectively utilising inner space which is perhaps the last frontier of mankind.

CONCLUSION

In conclusion, it will be observed that the emerging dynamics of the ocean emphasises the necessity for planners to invest in the exploitation of the seas and sea-bed, creating multi-disciplinary institutions, enlarging scientific resources, efficiently manage sea transportation, diffuse factors that attract external interests and provide new vistas of employment and economic growth. A Central Ocean Data Base, an Institute for Marine Instrumentation and a National Council for Inner Space could well be the triad on which will depend our ocean destiny. Failure to do so will however, not be instantly visible nor seemingly catastrophic. The back slide will continue to be subtle and gradual but similar to the AIDS syndrome. Therefore, the exploitation of the seas and sea bed for the improvement of our weaker sections may not be the single most important task in the remaining years of this century - but then who knows - it may'!

The Game of Arms Control

PROF T T POULOSE*

Ever since Gorbachev launched his campaign for controlling the nuclear arms race, the U.S. arms control school is in disarray. What we are witnessing today in the U.S. is the convergence of two influential schools of thought, though diametrically opposite - one the traditional arms control school and the other the arms control critics or the "hawks, doves and owls" - with the avowed objective of reversing the revolutionary trend of reducing and eliminating nuclear weapons initiated by Reagan and Gorbachev with the ratification of the INF Agreement. Traditionally, it has been understood that the military industrial complex (MIC), the largest vested interest group operating and influencing the U.S. ruling elite, has been responsible for the uncontrolled nuclear arms race. Years ago, President Eisenhower had testified this in his farewell address to the nation. The *rationale* on which the MIC operates is well known. These include:

- (1) the systemic threat from communism as an ideology;
- (2) the overwhelming Soviet military threat; and
- (3) the perverse logic that the Soviets can never be trusted.

This is what we describe in international politics as the Cold War logic. This formidable lobby has chosen the more articular anti-arms control analysts and the hardliners among the strategic thinkers as their ally, to attack the U.S. Administration which is willing to negotiate arms control agreements for limiting or freezing the existing levels of the nuclear arsenal. This particular anti-arms control coalition had been most successful during the Reagan Administration until Reagan himself, in a surprising turn of events during the summit parleys, agreed with Gorbachev to take a few radical though incremental steps, in the direction of ridding the world of nuclear weapons.

On the one hand, they argued that it was impossible to get rid of nuclear weapons and especially the knowledge of it and a world without nuclear weapons will be a very dangerous one. James Schlesinger, for instance, wrote soon after the Reykjavik summit meeting in October 1986:

"Nuclear arsenals are going to be with us as long as there are sovereign

* Dr. T.T. Poulse, Professor Disarmament Studies, School of International Studies, Jawaharlal Nehru University.

States with conflicting ideologies. Unlike Aladin with his lamp, we have no way to force the nuclear genie back into the bottle. *A world without nuclear weapons is a utopian dream....* Even if all parties were actually to abide by an agreement to destroy strategic arms, all would, out of sheer prudence, be poised to resume production and deployment. Given that imprint of nuclear capabilities on our minds, to seek total nuclear disarmament is to seek a goal as risky as it is impractical".¹

Richard Perle is particularly remembered as the author of the "Zero Option" concept which was intended to be rejected by the Soviets. Colin S. Gray, a well-known hardliner, on the other hand, has been advocating a "theory of victory", by launching a limited nuclear attack against the Soviet Union. He believes in the employment of nuclear weapons with the clear cut political goal of overthrowing the Communist rule in Russia and liberating East Europe from the Soviet hegemony. Other strategic experts who had a negative influence on the future of arms control under the Reagan Administration included Richard Burt and Paul Nitze who were themselves U.S. arms control negotiators. They argued that:

- (a) arms control was the real obstacle to Reagan's policy of rearmament and nuclear force modernization in order to reduce the "window of vulnerability";
- (b) "arms control, by holding the false promise of security through cooperation, was equivalent to moral disarmament and would sap the resolve of the Congress and the public to make sacrifices required to sustain the needed military build up".⁴

Fortunately, only a lunatic fringe in the U.S. believes in the employment of nuclear weapons in any form whether limited, protracted or an all-out nuclear war. Even President Reagan conceded that nuclear war can never be won and nuclear war shall never be fought. What planetary annihilation nuclear weapons can do, has been graphically described by Jonathan Schell in his well known book: *The Fate of the Earth* (1982). Nuclear war is still unthinkable. While Robert MacNamara observed that nuclear weapons have no use except as a deterrent, George Kennan in his book, *Nuclear Delusion* described the nuclear bomb as the "most useless weapon ever invented".

It is, therefore, evident that today the arms control school has become the real obstacle to the progress of future disarmament negotiations.

'LIVING WITH NUCLEAR WEAPONS' LOGIC

Nuclear war avoidance is a declared arms control policy, but a fun-

damental hypothesis underlying this objective is that arms control will bring about the transition to a gradual reduction and elimination of nuclear weapons and it will enable the two nuclear Goliaths to walk back to safety. Theoretically, it has been conceived as a half way house between nuclear arms race and disarmament by-arms control experts like David Singer. The prevention of a nuclear war is only a part of the arms control process which will culminate in the creation of a nuclear free world. Hence, 'living with nuclear weapons' logic recently advocated by the Harvard Nuclear Study Group instead of their elimination, is a dogmatic view of arms control in defense of the nuclear stalemate in order to perpetuate an inequitous international system characterized by the nuclear dominance/dependence paradigm. Like *nuclear theology*⁶ with its own dogma and doctrines of nuclear war-fighting, the arms control dogma of "living with nuclear weapons" is being treated as sacrosanct and even as an end in itself. This myopic view has been responsible for total dependence on nuclear weapon and its mystique.

DOCTRINE OF DETERRENCE

What sustains the intellectual reasoning of 'living with nuclear weapons' logic is the doctrine of deterrence. The UN study of deterrence by the group of experts in 1986, shows the importance of deterrence to American and Soviet nuclear strategy. *Deterrence is a fact of life and not a myth*. Thanks to deterrence, a nuclear war has been avoided so far. Deterrence accounts for the tranquility and peace in Europe for the longest spell of time; and also for the nuclear stalemate existing between the superpowers. But how long can the superpowers rely on deterrence? As Fred Ikle asked: "Will deterrence last out until the end of the century?" What is the cost of deterrence? What are the political gains of deterrence?

Some strategic analysts tried to answer these pertinent questions by taking a critical view of this important nuclear doctrine. To quote Fred Ikle:

"The jargon of American strategic analysis works like a narcotic. It dulls our sense of moral outrage.... It blinds us to the fact that our method for preventing nuclear war rests on a form of warfare universally condemned since the Dark Ages - the mass killing of hostages".⁷

Indeed, deterrence is an immoral, genocide doctrine. Surprisingly the American Church and society began questioning the morality of nuclear weapons and the doctrine of deterrence. As the Pastoral letter of the Catholic bishops in the US indicated, it raised normative issues like the right of a nation to deprive a human being of his life by the nuclear threat of annihilation. The Harvard Nuclear Study Group, the foremost champions of "Living with nuclear weapons" logic conceded: "We agree with the bishops

that nuclear deterrence is only conditionally moral; the condition being that we make genuine efforts to reduce dependence on nuclear deterrence over the long-run".⁸

The United States has spent approximately \$ 10 trillion = One Thousand Billion and the Soviets might have incurred an equal cost to maintain their nuclear deterrence. The annual average American spending on nuclear weapons under each U.S. President since Truman has been published in the *Bulletin of the Atomic Scientist* recently⁹:

Truman	\$ 3,920 million
Eisenhower	\$ 7,904 million
Kennedy	\$ 7,690 million
Johnson	\$ 4,747 million
Nixon	\$ 3,505 million
Ford	\$ 3,317 million
Carter	\$ 3,834 million
Reagan	\$ 7,552 million

One of the justifications of the SDI has been that it enhances mutual deterrence. Richard Falk referred to the political advantages of deterrence in his characteristic style:

"Deterrence has become so entrenched as an approach not because it has objective merit as the best means to avoid war, but because it alone reconciles nuclearism and the state system in an age of technophilia. Its hyper-rationality is in the last analysis, an ingenuous rationalization for the international status quo." Deterrence is used to legitimise:

- (a) the uncontrolled nuclear arms race;
- (b) the threat of an immoral genocide of millions of innocent people;
- (c) the holding as hostage of US and Soviet citizens; and
- (d) nuclear weapons monopoly and nuclear dominance/dependence theory.

NEW DOCTRINES AND TECHNOLOGIES INFLUENCING ARMS CONTROL DECISIONS

From such strange nuclear logic, other arms control anomalies and technological developments which will only aggravate the current nuclear stalemate and complicate arms control negotiations, arise.

The doctrine of discriminate deterrence is the latest doctrinal offshoot of this panicky response to the relentless Soviet pressure on the United States to

retreat from the nuclear madness of the superpowers. This is essentially a limited nuclear strike concept based on counter-force strategy and being contemplated in anticipation of a variety of threats likely to arise from new type of weapon systems and unprecedented technological advances as outlined in the Report on Discriminate Deterrence prepared by Fred C. Ikle, Albert Wohlstetter and others in 1988. Nothing can be more dangerous than "thinking the unthinkable" in any refined formula as limited nuclear war fighting will escalate.

The phasing out of MX and in its place, introducing a new type of mobile, single warhead ICBM called the Midgetman in the early 1990s, had been recommended by the Brent Scowcroft Commission appointed by President Reagan for Strategic Force Modernization in 1983. The Stealth technology (B-2 bomber) air-breathing systems like the Cruise missiles (Sea-launched and ground launched in addition to air launched cruise missiles), Trident II-D-5 (Ohio class) nuclear submarines, etc. in addition to the SDI systems are other examples of the mushrooming of new first strike weapon systems, creating strategic dis-equilibrium.

Henry Kissinger admitted that arms control was heading for an intellectual dead end and it was a folly on the part of the U.S. to have MIRVed the US ICBMs which led to the Soviet strategic superiority. Hence, he suggested that the US should even unilaterally undo the mistake so that it can persuade the Soviets to destroy the MIRVed SS-18s and abandon MX if Soviets agreed to dismantle SS-18s. This clever strategic revisionism can only create more mistrust in the Soviet leadership about U.S. intentions¹¹ as the mainstay of Soviet strategic capability namely the "heavies" of the land based ICBMs would have to be surrendered.

Joseph Nye and Thomas Schelling, two well known arms control thinkers, are concerned about the new arms control approach of the Reagan Administration. Hence they are going back to the old argument that counter-force targeting is the linchpin of Soviet strategy and a corresponding restructuring of US counterforce strategy which is capable of producing an effective pre-emptive, retaliatory capability.¹²

Joseph Nye, is also worried about the proposed deep cuts (50%) now being examined by the US and the USSR in order to reduce strategic weapon systems, as a follow up measure, after the successful conclusion of the INF Treaty. Joseph Nye argues that "the most important measures are those that lengthen the fuses rather than deep cuts ... timely warning and time for diplomacy to work rather than the number of weapons should be measures of successful arms control and force structures".¹³

Similarly, Thomas Schelling observes: "nobody ever offers a convincing reason for preferring smaller numbers".¹⁴ Thomas Schelling goes to the extent of arguing against zero option as the goal of arms control (though he has been disproved by the INF Treaty that zero-option can be the goal of arms control). Their biased view on deep cuts becomes most manifest when Joseph Nye in particular says:

"Many strategists warn that reductions which cut too deeply could be destabilizing. The stability of deterrence is an elusive concept, but it has at least three dimensions: crisis stability, arms race stability and political stability. Each would be affected if cuts were too deep".¹⁵

The foregoing review of the current thinking on arms control by some of the leading arms control analysts reveals the dilemma of arms control. Their alarmist approach stems from the fact that they are not prepared to face the realities and the far-reaching consequences of Gorbachev-Reagan initiative, leading towards deep cuts and the final elimination of nuclear weapons. Nor have they reconciled to Reagan's new arms control approach. A strange coalition of the hard-liners of the Reagan Administration who were opposed to arms control and genuine arms controllers who seek to maintain the status quo seems to be emerging to take a last ditch stand against deep cuts and the reduction and elimination of nuclear weapons. All arms controllers feel betrayed because their faith in nuclear weapons is being undermined by the shift in the U.S. policy.

MOVING TOWARDS A NUCLEAR WEAPON-FREE WORLD

The INF Treaty demonstrates clearly that progress in arms control negotiations is possible. But "living with nuclear weapons" logic, notwithstanding all its sophisticated reasoning and analytical brilliance can no longer take us to this goal. Even Caspar Weinberger, until recently known as an enemy of arms control, has conceded that the "old" form of arms control is unacceptable. "Arms control has been transformed and the old and I think it is fair to say, bankrupt concept of arms agreements has been discarded".¹⁶

If one can possibly look beyond, without the blinkers of the inadequate arms control theories of the past, one can really appreciate what Gorbachev and Reagan are trying to do by relying on reduction, deep cuts and the final elimination of nuclear weapons through arms control. What underlines this new approach is that it provides a *theology for survival*, perhaps the only mutually assured survival. Faith in the efficacy of the new arms control approach can demolish all psychological barriers, a "species fixation", as George Kennan would like to call it, "brewed out of many components such as fears, resentments, national pride, and the tendency of national communities to

idealize themselves and to dehumanize the opponent".¹⁷

If arms control has become a daring political act of faith for survival, old clichés symbolic of national distrust and hatred, such as 'dead or red', 'holocaust or humiliation', 'suicide or surrender', 'sudden destruction or slow defeat' etc. should be dumped in the dustbin of history.

Moving towards a nuclear free world is a gradual process and the reduction and elimination of nuclear weapons will come in stages within a time frame as the Gorbachev proposal and the Indian proposal outlined by Prime Minister Rajiv Gandhi in his speech at the UN SSOD-III in June 1988. In fact, arms control was hostage to the unending debate on myriad technical obstacles, real or imaginary, surrounding nuclear weapons and arms control negotiations. But now there is the evidence of a political will which is the ultimate arbiter of all decisions on nuclear weapons' elimination. I would, therefore, propose a Reagan or Bush-Gorbachev Pact (Like the Kellogg-Briand Pact, 1928)¹⁸ for renouncing nuclear weapons and nuclear war as an instrument of national policy by all nuclear weapons States to be followed by all other nations at an appropriate stage in the arms control negotiations. This will be another important milestone while negotiating alternative steps for moving towards a nuclear weapon free world.

This compelling "adaption to a new type of thinking", as Albert Einstein¹⁹ once said, alone will help mankind to survive the crisis of the nuclear age. Arms control negotiations are not merely about technology and weapons systems but also about security and survival. These vital issues are too serious to be left in the hands of strategic experts only. It involves both political and moral questions which should be resolved by political leaders and statesmen in accordance with the aspirations of the people and world public opinion.

Robert Oppenheimer once said: "I find myself profoundly anguished over the fact that no ethical discourse of any nobility or weight has been addressed to the problem of atomic weapons".²⁰ This moral issue should be the focus of all deliberations on arms control. The debate on the technicalities of nuclear weapons is the game of arms control to trap us in the vortex of the nuclear stalemate from which there is no escape. Both Thomas Schelling and Joseph Nye are only attempting to revise the rules of the game of arms control as they feel it outrageous to question the conventional wisdom about arms control.

Gorbachev's arms control initiatives and the recent unilateral conventional arms reduction proposals are deeply relevant to South Asia too. The hard liners and cold warriors in New Delhi and Islamabad can no longer

argue that regional, arms control is a pie in the sky. After the ratification of the INF Agreement and with the on-going negotiations on the 50% cut in strategic triad, one cannot seek refuge under Article VI of the NPT. India and Pakistan can now start the process of initiating proposals to reduce their conventional forces capabilities, budgetary reductions, mutual inspection of their nuclear installations and the South Asian nuclear weapon free zone alongwith other confidence-building measures. The atmospherics are all conducive to stop the drum beating and to begin peace-making in South Asia.

Notes:

- 1 *Time*, October 27, 1986, p. 11. (Italics added)
- 2 Strobbe Talbott, *Deadly Gambits* (London: Pan Books, 1985), pp. 57-58.
- 3 Colin S. Gray, "Nuclear Strategy: The Case for a Theory of Victory", *International Security*, Vol. 4, No. 1, Summer 1979, p. 70.
- 4 See, Arnold Horelick, "U.S.-Soviet Relations: The Return of Arms Control", *Foreign Affairs*, Vol. 63, No. 3, 1985, p. 514.
- 5 Albert Carnesale *et. al.*, *Living with Nuclear Weapons*, Harvard Nuclear Study Group (New York: Bantam Books, 1983).
- 6 Henry Trofimenko, "The Theology of Strategy", *ORBIS*, Fall 1977, pp. 497 ff.
- 7 *Foreign Affairs*, 51 (2), p. 14.
- 8 Albert Carnesale. *op. cit.*, p. 248.
- 9 August 1985, p. 109. f.n. 9.
- 10 *The Bulletin of the Atomic Scientists*, August 1985, p. 137.
- 11 Henry Kissinger. "A New Approach to Arms Control", *Time*, March 21, 1983, p. 17.
- 12 Joseph Nye, "Farewell to Arms Control", *Foreign Affairs*, Fall 1986; Thomas Schelling, "What Went Wrong Arms Control?", *Foreign Affairs*, Winter 1985/86. Also see *Hawks, Doves and Owls* (New York: W.W. Norton, 1985).
- 13 Joseph Nye, *op. cit.*, p. 14.
- 14 *Foreign Affairs*, *op. cit.* p. 226.
- 15 *Foreign Affairs*, *op. cit.*, p. 9.
- 16 *Foreign Affairs*, Spring 1988, p. 705.
- 17 *The Nuclear Delusion: Soviet American Relations in the Atomic Age* (London: Hamish Hamilton, 1984), p. 178.
- 18 E.H. Carr, *International Relations between the Two World Wars, 1919-1939* (London: Macmillan & Co. Ltd., 1950), p. 118.
- 19 Linus Pauling, *No More War* (New York: Dodd, Mead and Company, 1958), p. 5.
- 20 Quoted in, "The Church and Nuclear Deterrence", *Foreign Affairs*, Spring 1983, p. 828.

SPACE AS A BATTLEFIELD

MAJ GEN V K MADHOK

Space is now getting overcrowded with man made objects which could be hazardous. Today more than 7000 satellites, 12,000 pieces of scientific debris of varying shapes and sizes and 50,000 odd composite materials like screws, wire and nails orbiting at varying heights inhabit it. The number of satellites and debris could possibly double by the end of the century. All this poses threats to space missions and accordingly, space brooms are being designed to remove this debris by means of containers launched on rockets or from space stations, which could then be burnt up on their way down in atmosphere or brought down on to the oceans for deposit or disposal.

In this milieu, some interesting questions arise. For instance, would there ever be a space battle or a conflict, if so, will the winner in this conflict be in a position to dictate terms on earth? What are the emerging space goals of various countries; in what manner are the armed forces supported by satellites and are any anti-satellite weapons being designed to destroy suspicious and hostile satellites which sneak over a country?

THE QUESTION OF SPACE CONFLICT

Emerging space technologies and current achievements concerning satellites, space stations, space laboratories and anti-satellite weapons give a fairly reliable indication, that the capability to fight a space battle will be there by the end of this century if not earlier. Strictly from the military point of view, it will be a historic event, possibly an unpleasant one whenever this does take place. Also, the new space capabilities may bring many changes in military thinking of a nature one may not be able to speculate clearly. But considering that three fourths of the satellites so far launched are meant for military purposes; that 80% of the signals being generated by these are for intelligence, command and control and other military tasks like reconnaissance, military establishments have legitimate reasons for grave embarrassment in case their locations, barracks, logistic installations, headquarters, training exercises, firing ranges, weapon trials, troop movements, roads and railways and so on can be indicated with pin point accuracy: a capability which is already there and is being further streamlined. No country can afford to be bared in this 'transparency revolution' from the new high ground in Space.

In future, this capability would increase with the launching of space telescopes, orbitors deployed directly from the space stations and diverse types of

Elint (electronic intelligence) eaves-dropping gadgets, thus fomenting additional suspicions. Then Space has no boundaries. A country with space capability could therefore obtain and pass on sensitive information to the concerned party in the opposing block. The Super-Powers are accordingly well on their way towards finalising anti-satellite weapons so as to be in a position to deal with such situations. So it can therefore be expressly stated, that the seeds of a space conflict are already there inspite of the professed intentions to use Space only for peaceful purposes.

With emerging technologies, when more countries acquire space capability, the chances of a conflict can only increase and not diminish. Also, Space offers an alternative to a nuclear conflict. The EMP (electro magnetic impulse) generated due to a nuclear explosion in atmosphere will damage and render the parts of friendly as well as hostile satellites obsolete. Therefore in a way, Space would help nations to fight a battle and settle scores far away in remote areas from our civilisation, where the conflict would only be seen or visible on TV screens. And most of the population in a country would never get to know as to what exactly happened!

THE WINNER IN SPACE

It is being said and increasingly debated, that the country which dominates Space will also dominate the earth. The statement can be contested because space gadgets cannot remain indefinitely or independently in Space, entirely free of ground support! They need fuel, engineers, signal communications, air fields or space ports to land and take off. They are not self sufficient and have to be replenished periodically. Accordingly, they would remain dependent on support from earth till such time as a base is established on the Moon or Mars, which in the coming decades would in any case remain in the realm of science fiction. Nevertheless, the support systems from Space offer an endless plethora of options for the armed forces.

For all intents and purposes, Space is an open flank. And whosoever dominates this flank will exercise considerable influence on earth. Accordingly, the race by Super-Powers to dominate this flank. The successful country will be in a position to ensure unchallenged access to orbits, it will be in a position to challenge hostile Space satellites like Elint (electronic intelligence), early warning, communication, weather, and ocean surveillance satellites. Therefore it is really in the freedom to use such facilities, that there is scope and power to dominate the earth. In spite of this, there should be no doubt that in future, space power will be as important as air power has been so far and perhaps much more. Countries which are not space power would in any case remain helpless spectators. The winner in a space conflict would certainly dominate them.

EMERGING SPACE GOALS

As most of the earth has already been explored, quite logically, countries have turned to space exploration as their next objective. Space philosophies are accordingly being discussed and planned with two cardinal objectives; to ensure military security and to establish commercial and industrial enterprises. Therefore, before the year 2000, it would be hard to imagine a world without diverse types of satellites, space monitors and remote sensors to spot mineral deposits, droughts and incipient floods. The American goals centre on a desire to gain prestige in view of the earlier set backs they had suffered in the 1960s. They would like the other countries to associate with them. They consider that ultimately, a base on the Moon would establish them as the leaders in Space. Accordingly, they are contemplating to establish a base on the Moon between 2005-2010 and perhaps later, a post on Mars.

In this context, therefore, a space shuttle (for transportation), a space station (really a depot in orbit for assembling long and short term projects) and ultimately a base on the Moon are being thought of. They are going in a big way to encourage the future generations to study cosmos, space law, earth observation, remote sensing and many other subjects connected with Space and to produce a large number of space graduates and engineers.

The Soviets are of course the leaders in Space today. From whatever is known they seem to be going in for an extended activity using automatic docking satellites with their Space station Mir. The switching of crews in space stations, it appears, would become a routine and the plans for industrialisation of space would also continue at an increased pitch. There are plans to carry out detailed studies of Mars and other planets. Britain has included the study of microgravity in addition to earth observation programmes. They are also engaged in several joint projects with NASA for a Space station, the Space telescope and a Gama Ray observatory in Space. Canada has a number of interesting programmes: Sarsat (a search and a rescue satellite programme), Space transportation system, Msat (a project designed to put the users in instant touch from a ship, bicycle or while on foot through satellites), Radarsat (for early warning of droughts and floods, and Paksat concept (designed to study the intentions of other satellites in Space).

Australia, China and Japan have interesting programmes too. The Chinese are planning to offer low cost launch facilities along with insurance cover and Australia is in the process of establishing a Space port. Japanese have a national Space Agency and were the fourth country to launch a satellite. By the end of this decade, a major success which should emerge is in connection with Space transportation systems for conveyance of pay-loads to

orbits. However, this is and can be only a brief glimpse of what is happening or being thought of by some of the countries.

SATELLITES AND ANTI-SATELLITE WEAPONS

Broadly, the eight types of satellites being used today can be categorised into: photo reconnaissance, electronic intelligence (Elint), ocean surveillance, communication, early warning, navigation, meteorological and geodetic. Photo reconnaissance is a vast subject by itself, but the purpose is quite clear, it gives an ability to look down on the enemy with relative safety. As regards Elint, there is little known publicity about this type of intelligence gathering when applied to Space based systems. These can generally be described as those systems which are involved in gathering information about missile tests, radar signatures, and general radio traffic. Ocean surveillance satellites are designed to watch the enemy fleets by using radar and sensors.

The job of communication and early warning satellites though essential is a peaceful one. Navigation satellites help to find and fix one's position more accurately than the stars by correlating the radio signals from several orbiting satellites. With their help a submarine or an aircraft would always know as to where it is. While weather satellites help acquire speedy information of weather. And Geodesy satellites are designed to map the earth's gravitational field and also for increasing ICBM accuracy.

Anti satellite systems are being designed to destroy those satellites which are posing a threat or are just sneaking around in Space over a country with hostile intentions. As satellite capabilities increase, powers using them become more dependent on them. Chain reaction in turn ends up in suspicion about intentions, thus laying the basis for anti-satellite weapons.

A satellite has four components: the satellite, a ground station, the user and communication links. The destruction or disruption of any one of these will negate the usefulness of the system. On the other hand, the system designed to kill a satellite has several elements for: selection of the target and tracking, the booster or launcher for launching the weapon and the weapon itself. Again, should any of the elements fail, then the entire system fails. The two Super-Powers have designed different systems to suit their technologies and requirements. The Soviets have a direct ascent co-orbital satellite (tested in the late sixties) system. While the Americans have a direct ascent IR Homing F-15 aircraft with an MHV (Miniature Homing Vehicle) mounted on it. The Soviet Hunter Killer satellite explodes on getting close to the suspected satellite. In the American ASAT system, the aircraft guides the device (MHV) to Space, which then locates the target with its sensors, separates from the aircraft and rams into the target's satellite. But one of the

genuine difficulties of Space weapons continues to be the problem of distinguishing between decoys and real threats - between scientific and military payloads.

CONCLUSION

No one will disagree that a weapon free Space can help serve a large number of activities for the welfare of mankind such as manufacture of medicines, drugs and vaccines, electronic materials, electricity generation, mining of the Moon and nearby planets and perhaps in establishing our first contact with other civilisations. But this is at best a pipe dream. The history of mankind has never been free of wars. As mentioned, the seeds of a space conflict are already there. But the developments for human welfare will take place in Space inspite of developments for warfare as these have done on earth. Therefore those who talk of a peaceful space environment as a prerequisite, show a lack of historical perspective. The reality is that the support from the space systems to the armed forces on earth will be a threat by itself. And because it is so, there will be no option but to deny and if necessary, destroy these threats.

Gulf War and Security of South Asia

MAJ GEN RAJENDRA NATH, PVSM (RETD)

Iran-Iraq war which started in September 1980 and ended in 1988 has set many records. It has lasted eight years, the longest war in the twentieth century, in which both the countries have suffered about a million casualties. The developed countries made fabulous profits by supplying much needed war material to both countries who lacked defence industries. During this war fought along 1088 km long border, gas was used by Iraq several times to blunt the Iranian assaults contrary to Geneva convention. Later Iran also used gas but on a restricted basis. For the first time, missiles were used by both sides against civil population to break the opponent's will to fight. Iraqi forces were equipped with Russian equipment while the Iranian forces were equipped and trained by U.S.A. At the specific request of Iraqi Government India had sent a small military mission to Iraq nearly a decade before this war. Iraq had sent many officers to USSR for training. It has been sending some cadets every year for training at NDA/IMA in India also for over a decade. A large number of Iranian officers had been trained at various military institutions in USA.

It was expected that Iraqi forces would follow the Soviet tactics while the Iranian forces would use US doctrines. However, this was not quite the case during the protracted war. Actually from the point of view of development of new tactical doctrines, there is not much to learn from this bloody conflict. However, one can learn quite a few useful lessons from the strategic point of view. When the war started, Iran and Iraq had much less forces and weapons systems, from what they possess today. Iran has at present over half a million regular forces which consist of mostly army, it has a small navy while air force has almost been decimated in the long war. Iraq has nearly three and a half lakh regular forces comprising mainly army with a small navy but a fairly strong and well equipped air force. Iraqi army possesses more tanks, armoured personnel carriers and guns which gave it a better cutting edge over the Iranian army. Both the countries possess missiles, Iraq much more than Iran. Iraq has claimed that it has not only developed its own short range missiles but has test fired an anti missile also.

PROTRACTED WAR

The Shah of Iran wanted to modernise Iran and make it a strong economic and military power in South Asia. USA was also keen to make Iran, a reliable US ally, in the seventies, a viable regional force as it suited

US global interests. The US government failed to realise that the modernity as practised by Shah was not necessarily synonymous with progress, well being and true needs of the Iranian people. This resulted in Iranian revolution in 1979 and the new religious leaders of Iran were severe critics of USA. A blood bath followed and quite a few pro US senior officers of armed forces were removed, many even lost their lives. The organisation of the armed forces suffered in the process. The US in return stopped all military and economic assistance. Since Iranian armed forces were solely dependent upon USA for its military requirements, it adversely affected their operational fitness. The new rulers of Iran, full of revolutionary fervour did not quite comprehend the implications of this sudden change. It is obvious that Iraq misjudged the Iranian revolution and came to the conclusion that if it were to strike at Iran, it could gain a quick and cheap victory and in turn dominate better part of Persian Gulf. Iraq with an area of 4,34,924 sq kilometres and population of about 14 million was going to attack Iran which had nearly four times its area and over three times its populations.

In 1980, Iraq had a mechanised Corps with few mechanised and armoured divisions in the south in Basra area, another Corps with few infantry divisions in the northern hilly region while 2-3 divisions were kept near Baghdad as central reserves. The main offensive was to be launched by the mechanised corps in the south while the corps in the hills was to carry out mainly holding operations making limited ingress into the Iranian territory. The Iranian army, though bigger in size was not only somewhat disorganised but also well spread out. Some divisions were located north facing Soviet Union while few others were stationed in the north east and on eastern border. It had an armoured division and three infantry divisions facing Iraqi forces in the south while some divisions were manning the border with Iraq along the northern mountainous border. Another armoured division and few infantry divisions were held as reserve in Teheran area. There were border clashes in early 1980 between the two countries. The Iranian intelligence failed to notice the forward concentration of Iraqi mechanised corps. So the Iraqi offensive in Sep, 1980 did surprise the Iranian forces by its weight and timing. The Iraqi forces gained initial success, as Iranian forces fell back in disorder. The withdrawing Iranian troops took up positions in Khorram Shahr and Abadan cities and converted them into strong defensive bastions. This was the time for Iraqi commanders to try and inflict a crushing defeat on the withdrawing Iranian forces in a mobile battle, but they missed the golden opportunity. Instead they decided to capture the cities of Khorram Shahr and Abadan. The bitter battle for the capture of the two cities went on for few months before they fell. This gave Iran much needed time to reorganise its army, move forward its reserve formations for counter attack to recapture the two cities. By the end of 1981, Iran had recaptured Abadan and in May,

1982 Khorram Shahr. By the end of 1982, all Iraqi forces had been thrown back from the Iranian territory. Then started the ding-dong battle between the two countries which lasted for nearly six more years without any country gaining a decisive victory.

Iran launched its first offensive on Iraqi territory in 1983 and Iraq retaliated by air attacks on Iranian oil platforms to damage the oil production. In February-March, 1984, Iran launched its second offensive to cut Baghdad-Basra road and made considerable progress. Iraq used gas, its last weapon, to demoralise Iranian troops and halt their advance. In 1985 Iran launched another offensive in the area of Homeiza Marshes, north of Basra and gained some territory after severe fighting. End of 1985 witnessed the start of missile war to devastate each other's cities. In 1986, Iran succeeded in capturing Fao peninsula south of Basra. In 1987, Iranian forces captured some territory in northern Iraq while in the south they made limited gains in Majnoon area, north of Basra. This was Iran's last successful offensive. Iran had suffered heavy casualties in men and material in its attacks because of strong Iraqi defences. It suffered great losses in tanks which could not be replaced quickly while human wave tactics had not only inflicted heavy casualties on its infantry battalions but also affected their morale. By the end of 1987, the equipment situation of Iranian Army had begun to look like the last days of Confederacy in the American Civil War. They were desperately short of both armour and Artillery.

1988 found Iraqi forces better equipped than those of Iran and in better morale too. In March, 1988, Iraq mounted its major offensive with its mechanised forces and superior air force. Iran suffered a string of military set-backs, losing Fao Peninsula, Homeiza marshes and Majnoon area, suffering heavy losses in men and material. Iraqi forces made many deep forays inside Iran also to capture prisoners and war material, as Iranian forces fell back in disorder. In the northern region also, Iraq recaptured most of its lost territory. Hasheimi Rafsanjani, parliamentary speaker and newly appointed military commander in chief (he had once served in the army for two years) persuaded Khomeini to accept the cease fire proposals in view of fast deteriorating military situation. Iran which all along had refused to accept cease fire, eventually agreed to do so after set backs on the border. The salient points that emerge from this war are summarised below.

USE OF GAS

Compared with sophisticated conventional weapons, chemical warfare is simple and does not require special or advanced technology. Chemical weapons are also relatively cheap. They are easy to deliver with a wide choice of means: bombs, missiles, artillery shells, mortars, multiple-launch rockets

and aircraft sprays. They are easy to produce. According to the USA, whereas only five countries had chemical weapons 20 years ago, there are now 15-20 countries who possess them. Meanwhile USA and USSR have stockpiled large quantity of chemical weapons. It seems that chemical weapons may be deployed by underdeveloped and poor countries who cannot develop nuclear weapons.

Iraq had built up its chemical warfare capability with the help of developed countries in the early eighties. Its main plants are located at Samarra, 10 kilometres north of Baghdad and at Fullujah, 65 kilometres west of Baghdad, which are protected by batteries of SA-2 missiles. The UN, after investigations has blamed Iraq for using gas during war. Iraq used mustard and nerve gases; nerve gas can kill within two minutes of its contact. The Iraqis used chemical weapons in the form of air dropped bombs or artillery shells which inflicted about 10,000 casualties, of which atleast 1000 died. The gas attack certainly affected morale of Iranian troops. If Iraq had nuclear weapons, it would have probably used them too, when it was in a tight corner. And so can other countries use chemical or nuclear weapons, whenever situation so demands in the interests of national security. Meanwhile, Iran has also put up a plant to manufacture chemical weapons with the help of advanced countries. Incidentally, the Chinese possess chemical weapons while Pakistan is also taking keen interest to develop them. India neither possess chemical weapons nor does it propose to develop them.

NUCLEAR CAPABILITY

Both Iraq and Iran seemed to be determined to obtain nuclear capability as fast as they can. Israeli air strike that knocked out the French built Osira reactor near Baghdad in 1981, was a set-back to Iraqi nuclear ambitions. However, the French are reportedly building a new plant in hills north of Baghdad. The Iranians are establishing nuclear facilities at Bushehr in Southern Iran with West German assistance and with French assistance at Darkhovin. An American analyst has commented that neither country is near achieving military nuclear capability as yet. However, neither wants to loose the race. and developed countries are prepared to help quietly, provided the right price is paid. The fact that Israil has already developed nuclear weapons and the missiles to deliver them, is another factor which is motivating them to produce nuclear weapons.

USE OF MISSILES

The missiles varying from short range to intercontinental, were originally designed to carry nuclear weapons only. Later, the developed countries started replacing nuclear warheads with conventional explosives in order to

sell them to other countries. During this war, the missiles were used to devastate each others cities. The Iraqis used at least four times the number of missiles as did Iran, thus acquiring a measure of destructive superiority. Iraq used scud or similar surface to surface missiles (SSM'S) obtained from the USSR. Since Scud B is normally credited with a range of 330 km and Scud C with 500 km, it appears local modifications have been made in Iraq, like reducing the weight of the war head or by adding a booster stage, to increase the range in order to hit distant targets like Teheran. Iraq has also fired some air launched missiles from TU 16, Badger aircraft supplied to Iraq by USSR. Iran fired limited Scud missiles against Iraq which were supplied to it by Libya and Syria. China has supplied Iran with Silkworm missiles which are ship born surface to surface missiles with a range of about 80 km. These were used a few times during the war. The Chinese are reported to have supplied missiles to Pakistan also but much information is not available regarding the type of missiles. India has to take note of this new development. USSR had offered India short range missiles way back in 1981/82 but India had not accepted the offer, as it wanted to develop its own tactical missiles. It has already test fired a short range missile but much more work is required before the missiles become an integral part of Indian armed forces. It is essential for India to develop the missiles fast or we may have to get them from the USSR.

COHERENT DEFENCE AND FOREIGN POLICY

The fundamentalist leaders of Iran failed to evolve a pragmatic foreign policy which could help its defence policy. It annoyed the USA and distanced itself from the USSR. By proposing to spread the Iranian type of Islamic revolution to Middle East Arab countries, it alienated them also. So the rich Arab nations helped Iraq financially while USSR and Western countries helped Iraq by selling latest weapons systems. USA sent its fleet in 1987 to keep Iranian navy under control. Iran found itself isolated. Iran has now realised that religious fervour is a poor substitute for lack of coordinated foreign and defence policy. One gets the feeling that perhaps strategic interests of the USA and USSR seemed to coincide temporarily in keeping Tehran in its proper place.

PROSPECTS

- (a) The first effect of the cease fire has been reduction of tension not only in the gulf region but in the Middle East as a whole. The US has started reducing its fleet and would like to reopen its ties with Iran. Iran's relations with USA have been very strained lately but in international relations every thing is possible, given time and mutual interest. USA wants to keep Russian influence out while Iran shall require

technological aid both for industrialisation and to refurbish its armed forces which were once based on US pattern.

- (b) Economies of both the countries have suffered serious damage and they will be making strenuous efforts for rapid rehabilitation. This is a great opportunity as well as a challenge for India. India has wisely kept itself aloof from the conflict and has maintained correct relations with both the countries. If Indian Government, industrialists and economists can take proper measures in advance to cooperate with Iran and Iraq in their efforts to modernise, all the three countries stand to gain.
- (c) Iranian revolution based on Muslim Fundamentalism is likely to lose its vigour initially outside Iran and in due course inside Iran also. Though war has ended in a stalemate, Iran a much bigger country has come out only as a second best in the final analysis. Revolutions need victories to sustain them, not poor stalemates. Iran's foreign policy is likely to become more analytical and pragmatic in future in order to look after its national interests.
- (d) Iran shall certainly try to build itself both economically and militarily. It has the size, the population and financial resources to become a regional power. India should continue to cultivate good relations with Iran without, in any way, affecting its cordial relations with Iraq.

China made fortune by selling weapons to Iran as well as Iraq, though its main client was Iran. The weapons were despatched through Pakistan via famous Kara Koram high way and also by sea. Pakistan played a crucial role in getting Iran arms and missiles from China. Iran's relations with Pakistan and China have improved considerably. Will this growing understanding emerge into China-Pak-Iran axis? This will be against Indian interests. This poses a tough challenge to Indian planners - both of foreign policy as well as defence. Because of recent changes in international situation, many people in India may tend to overlook the growing understanding between Iran, Pakistan and China. India should improve its relations with China and Pakistan but should remember that its main rival in the region eventually is likely to be Iran and not Pakistan while China has emerged the strongest military power in Asia.

US Sale of AWACS to Pakistan

VEENA RAVIKUMAR

At the outset it is important to mention that this is an analysis from a policy or political viewpoint. There has been so much ongoing debate about the implications of Pakistan acquiring AWACS from the United States that the point has been lost in a vast morass as to whether India is merely reacting to it or whether India should itself acquire one.

The analysis points to the fact that:

- 1) AWACS is important and necessary on its own strength as intrinsic part of modern technological equipment. It is far seeing and futuristic as well as relevant.
- 2) The acquisition of an early warning airborne system is necessary irrespective of whether Pakistan has one or not.
- 3) That after defining the nations needs we should make it politically imperative to have one.

The above can be more clearly understood if the implications of the sale of AWACS to Pakistan are put into a foreign policy analysis perspective. All this is part of a greater scheme, that of Indian foreign policy making. What has been the Indian foreign policy goals? In short, three:

- 1) Legitimacy in the world order
- 2) Credibility as a major power
- 3) Its regional role

Expanding on the above, it is clearly seen that the Indian profile in the world order has been high. India has been one of the major members of the United Nations Organisation. It has taken part in joint operations under the U.N. Flag (Congo crisis, Korean war) and is an active participant of developmental agencies, both social and economic. It is also a member of other international organisations. This has served to legitimise its inherent position in world order.

India's credibility as a major power has not really been in question since its attainment of independence in 1947. Its enhanced role as a non-aligned nation and as one of the leaders of the Non-aligned Movement has increased its status in the eyes of most other nations whether non-alignment has been particularly thought of as a devious strategy or an idealist stance is a different

issue.

This really spills over into the significance of India's regional role. It requires some thought especially in the light of the recent Sri Lankan problem and the not so recent Afghan issue. India has managed to wield its foreign policy interests cannily with its own national interests in view, as is the aim of the foreign policy of any 'developed' 'hard' state.

The spiral arms race syndrome with an action - reaction riposte has been almost technically as well as psychologically built into both the Pakistan and the Indian foreign policy framework. Hence Afghanistan, too, has become an issue in the gamut of foreign policy issues. Pakistan is using that to get a substantial arms aid package from the U.S.; India is wary of the same.

Bangladesh, Bhutan and Nepal either with their military regime instability or their monarchial regimes do not substantially oppose India's major role in the South Asian region.

In the same context, it is best to make the Indian foreign policy tenets clear to give a sharper image to the policy implications of the sale of AWACS. One of the foremost tenets which has overriding significance is the concept of non-alignment. The way India was in its infancy with a colonial history of semi British power, still colours it with the same imagery. The intellectual argument advanced was that India had the difficulty of keeping its head above conflictual waters, equidistant from the two powers. This was the result of the clash of two differing, political systems - the USA, as a liberal, democratic, capitalistic system and the Russian 'leftist, communistic' system, a challenge to the existing western mode, their roles in the second world war and the ensuing power conflict. It was essentially a Nehruvian policy but also underlining a futuristic strategy. It showed almost a compulsion of a Third World Power as regards 'real politik'. It has, as a policy, not been accepted even now by the west e.g. Kenneth Waltz believes that non-aligned third world nations are easily marginalized; that non-alignment is no policy; that the Dullesian doctrine (those not for us are against us) still holds good and therefore based the foundation of complete non-understanding of third world nations.

The Panchsheela emerged from this basic concept and was defined within boundaries of 1) mutual respect for territories, 2) mutual non-aggression, 3) non-interference, 4) equality and mutual benefit, 5) peaceful co-existence (an example of this was the Treaty with Tibet which was actually a master stroke of Chinese diplomacy at keeping India at bay). It fitted in which Gandhian ideals of peace, ahimsa and non-violence, as well as peaceful resolution of conflicts.

These concepts motivated a highly defensive, non-rational defence policy. It was only after the 1962 Sino-Indian debacle that any definitive, rational military policy planning took place at all looking into military systems of the future.

Friendly relations with nations, albeit with neighbours is another tenet of Indian foreign policy. It has recently led to the formation of South Asian Association for Regional Cooperation (SAARC). This has major foreign policy implications involving India's self-image in the subcontinent. Especially with its relations to Pakistan and on another level with other countries in South Asia. The self image involves a cooperative image not a conflictual one. Therefore the interplay between India and its neighbours has to be a 'soft' variety, not at all the adversarial kind. This has complex connotations for Indian foreign policy vis a vis Pakistan and China and the need to present as peace loving profile defensive in scope.

India is a democratic republic with a complex interdependent decision making system. This impacts on foreign policy making. Bureaucracy and political forces are constantly reacting with each other projecting different viable modes of policies and decisions. This makes it difficult at times to take the best line possible and get the maximum optimum result. The net policy that emerges is more a compromise solution than a fearless radical alternative.

One main concern of any nation, and certainly that of India's pertains to the Morgenthauian definition of power. Power is getting A to do what B wants done even if A does not really want it. Sometimes an issue depends entirely on this concept. India, too, is no exception to this. Moreover, to develop the Indian image, to be technologically independent, forceful and futuristic it is imperative to understand power.

To deal with definitional qualities of power, made abundantly clear in Martin Wight 'Relations between independent powers'. Morgenthau - International politics like all politics is a struggle for power. Schwarzenberger "Power politics signifies a type of relation between states in which certain pattern of behaviour are preponderant".

Power is a relational concept. Armaments or the lack of, form an important area or bargaining counter for any nation. They become inherent in power diplomacy and encourage a distinct hegemony in the relations between states. Therefore acquisition of AWACS by Pakistan would encourage this hegemonistic tendency in the region.

Indian foreign policy with two aspects to its credit has to react to this keeping in mind idealism and self interest, and trying to resolve the con-

tradition between these two. What is needed is using military capability as a positive source of strength and objective planning of defense needs. There should not, conceivably, be a debate between defense versus development but maximisation of security along with flexibility of military response.

Having said that power is relative, it behoves us to further the idea that there should be sufficient military power along with economic self sufficiency and more. The political power should reside in stability with a medium of resolution of ruling and opposition ideas. The ideological basis ought to contain clarity keeping in mind India's geopolitical significance that of geographical closeness with Soviet Union and China nearness to Pakistan and Bangladesh as well as Nepal.

It is not only the projection of power but the actuality or reality of the situation itself that matters. It is imperative to understand that foreign policy of different countries like U.S.A., U.S.S.R., South Asian nations will have different motives and implications.

Pakistan's situation and foreign policy will be on the basis of its political system viz. dominated by the military. Therefore, its motivation will be different too. Being an authoritarian regime it did not have in-built contradictions of deferring to public opinion or opposition politics be consensualized. Hence it is much easier for Pakistan to be aligned to the United States even if for convenience. Also U.S. holds the key to Regime stability of Pakistan. Indian foreign policy and decision making is constrained by its political system - democracy. Pakistan was not inhibited by it, till the recent elections.

AWACS are equipped to change the very balance of power discussed earlier. AWACS are force multipliers. Any nation having them has a massive added advantage.

Initially, Airborne Early Warning systems helped as part of a defense policy planning. AEW aircraft are good for patrolling strategic areas and though not armed to attack the enemy as such, their deterrence value makes them important to military equilibrium.

Airborne Early Warning Systems have the reputation of being 'eyes in the sky'.

India has always been keen to develop this particular system. Manufacturing, researching, developing this is being done by the AWACS since 1971. They have used the AVRO as the aeromodel with the rotodome on top to house the radar. How effective it is going to be can only be seen when research on the prototype is complete.

The difference between AEWS and AWACS is that the latter is tech-

nologically more sophisticated and the ultimate in the use of electronic warfare where production, deployment and use is concerned. Therefore it is important for India to develop its own AEW systems, motives notwithstanding.

It even helps in defence of the fleet in the form of two possible solutions: 1) to provide a radar sensor in a long range, land based aircraft; or 2) an AEW helicopter organic to the fleet. In this, the naval command would retain an integrated operational scenario by use of dedicated assets.

The principal roles of the AEW helicopter are:

- 1) detection of airborne targets at long range including missiles;
- 2) control of friendly fighter aircraft;
- 3) surface surveillance for targets of all sizes including submarine periscopes/snorts;
- 4) surface target classification;
- 5) control of attack aircraft against surface targets;
- 6) over the horizon targetting; and
- 7) LIMITED Anti-submarine Warfare (ASW) in surface detection.

The AWACS can function as a submarine hunter under conditions when the submarine is emitting radiation, in surfacing, or snorkelling.

The AWACS system is capable of numerous missions ranging from search and rescue to drug interdiction to surveillance of the space shuttle launcher. The E-2C's unique capabilities proved to be a great asset in tracking the shuttle's booster as it fell back to earth.

At the operational level, the AWACS may be perceived to play crucial roles in three important areas; in support of offensive operations; in air battle management; in the struggle for air superiority and defensive operations; and the political uses of the military system including those termed as coercive politics. It is necessary to emphasise the AWACS operations must not be viewed in isolation of other systems and measures. AWACS operations would inevitably be coordinated with the overall defence system, electronic warfare including electronic intelligence gathering, air operations, other military systems or initiatives, and political use of force. Secondly, the scenarios would change significantly if both sides have equally effective AWACS. The asymmetry of AWACS capabilities poses the greatest danger of destabilisation of the security environment.

The employment of AWACS in support of offensive operations would

enable friendly strike aircraft to be supported by providing past as well as the current developing threat situation. Threat perceptions which become an intrinsic part of conflicts can be more manageable.

Pakistani motives seem to be suspect for four reasons:

1) Cruising at 30,000 feet the AWACS can rip off operational secrecy and Pakistan can easily use this against India.

2) The expense is prohibitive and they are getting this as part of \$625 million military/economic package from the U.S.

This according to even Benazir Bhutto will get Pakistan pushed into the "inextricable vortex of super power conflict".

This package could at a later stage compromise Pakistan's position in the region as well as its sovereignty.

3) Technological competence is in question. This is a matter of both conceptualization and training. Pakistan's loss of F-16 over Afghanistan and another two (one hitting a pig), has made, U.S. wary of the competence of Pakistani pilots to man the AWACS. Hence the 'loan' of U.S. pilots for a year. This is not clearly defined, in the U.S. policies while 'sale of defense' becomes a convenient American bureaucratic innovation to circumvent the lapses in the American Congress towards rapid aid to Pakistan.

4) An AWACS is a sitting duck. It does not carry any weapons to protect itself from enemy attack. Therefore about 3 AWACS will be protected by 18 F-16s. Today Pakistan has 37 F-16s and will have to devote half of its F-16s for the defense of its AWACS. This really does not make a feasible or a rational long term military defense policy.

Apart from the above, Pakistan's budgetary considerations make it even less feasible. Pakistan has an external debt of about 30% of its GDP and the AWACS would not figure within its costing expenditure.

Pakistan's motives are far easier to understand and explain in terms of the acquisition of AWACS. The United States motives are far more in doubt. The credibility of the U.S. is at stake. The U.S. Air Force looks upon the sale of AWACS to Pakistan as a golden opportunity to further America's own strategic interests in South Asia. From Saudi Arabia to Pakistan's border with China, the U.S. Air Force wants to build a chain of patrolling AWACS, a long string of aerial watch towers to move over South Asia and the Gulf.

The air attacks from across the Afghanistan border had therefore come to further both the U.S. and Pakistan military strategic interests. It is for this reason that the former Pakistan Air Chief Zulfikar Ali Khan said, that if the

U.S. was leasing the AWACS to stiffen our spine' in the context of Afghanistan, it should be refused. According to him Pakistan would be manipulated by the U.S. and lose its credibility in South Asian politics with other states viewing Pakistani intentions with suspicion and alarm. U.S. colonial intentions would be further defined and the donor-recipient relationship revealed.

Strangely enough, the scenario has changed with the amicability in U.S.-Soviet relations, a political solution to the Afghanistan problem is imminent. The bonafide reason for Pakistan acquiring AWACS no longer holds true. Yet the U.S. is reiterating its stand and pushing for Pakistan's acquisition of AWACS. The underlying reason, of course, is to award Pakistan brownie points for being a loyal ally in South Asia.

Yet the U.S. policy makers are divided on this point only because they fear Pakistan's potential to join the nuclear club, making it a dangerous adversary rather than an unquestioning ally.

China never having had terribly cordial relations with India since 1962 has taken upon itself to help Pakistan develop its nuclear capability. This causes a double danger to India especially in the face of Chinese help to Pakistan for its nuclear triggering device.

These factors do not and should not overwhelm Indian policy makers but just make them more aware of the geopolitical, geostrategic position India is occupying and therefore the urgent need for defense decisions. Further, it is necessary to consider the usefulness of the AWACS on its own merit. Production, deployment and use should be clearly thought out.

So much of policy making goes into decision making inputs for defensive purposes; it is not easy to spot the wood for the trees. The costing, expenditure et al are serious constraints. But more so, unlike Pakistan, India is not a mere regional power but has a global role to play. India's role as leader of the non-aligned is sufficiently highlighted. Ipso facto India needs to be ahead technologically too.

Bearing some of the above factors in mind, the U.S. too is undecided whether to sell or to lease AWACS to Pakistan. Whether or not to 'loan' its pilots. There are senators like Stephen Solarz who insist and justify that the AWACS will not be used against India but against the Afghan border. This is like telling a soldier to point the machine gun in only one direction even if he be threatened from another ! This reason already holds no water. The hopeful factor in the situation is that the U.S. is still not absolutely certain of handing over the AWACS to Pakistan.

But all this definitely would make Indians feel beleaguered. The alterna-

tive systems need to be developed as counters to AWACS. The MIG 31 at Mach 3 speed can fire to pull away before the AWACS can go into action. The Soviet II-76, a less sophisticated but still viable aircraft can be a counter to the AWACS. The AWACS Avro with the radar rotodome can be built into a viable system though it requires time. The last only lacks the system to coordinate and direct an air battle but can work well as an early warning system. Though it has been on the drafting board; the urgency in policy makers and politicians has only now been generated because of overriding events.

Looking at distance, range, capability, viability due to production and expense, it is more imperative and useful for India to have one. Political and defence opinion is building up to them.

Moreover China on India's 'other border' is a big enough threat to make acquisition of the AWACS system important enough for India.

Strangely enough, there is not much reaction from the rest of the world. There is no reaction at all from the western countries. Political pressures - both Democratic and Republican within the U.S. were at odds with each other for a while on the support for India/Pakistan but now there is a hiatus there. Dobrynin from Soviet Union used a reassuring tone to curb measures amongst Indian policy makers but nothing definitive.

The AWACS debate is no longer a debate. It is practically becoming a non-issue but it is useful to know that policy imperative should point to India acquiring one to keep stability in the South Asian region.

Also, the change in the Presidency in the U.S.A. may not provide a radical change in the argument put forth in this paper. This issue may carry on as usual with the doubt still in abeyance of the American Congress handing the AWACS to Pakistan. Though a sympathetic President incumbent of U.S. may rethink this. That is doubtful.

Nevertheless, there should be coordinated effort amongst research organisations, not futile competitiveness. Organisations like DRDO, LRDE, ASWACS etc. should make parallel efforts not overlapping ones to reach their common goal of acquiring this force multiplier.

The military balance is a tenuous equation with dependent variables relating to both conventional and ultra sophisticated weapon systems. Airborne early warning and Airborne Warning and Control Systems rely on sophisticated radars for the three phases in any air defence operation - detection, identification and destruction. This is not mere weaponry but part of a weapons system needing a cohesive framework of production, deployment, use and control. It has serious policy implications. Nevertheless, Indian

decision makers ought to consider it irrespective of whether a 'debate' is resumed or whether the U.S. actually delivers the AWACS system to Pakistan or not or whether the cost is prohibitive which it is not. It would benefit Indian foreign policy making in long term future strategies.

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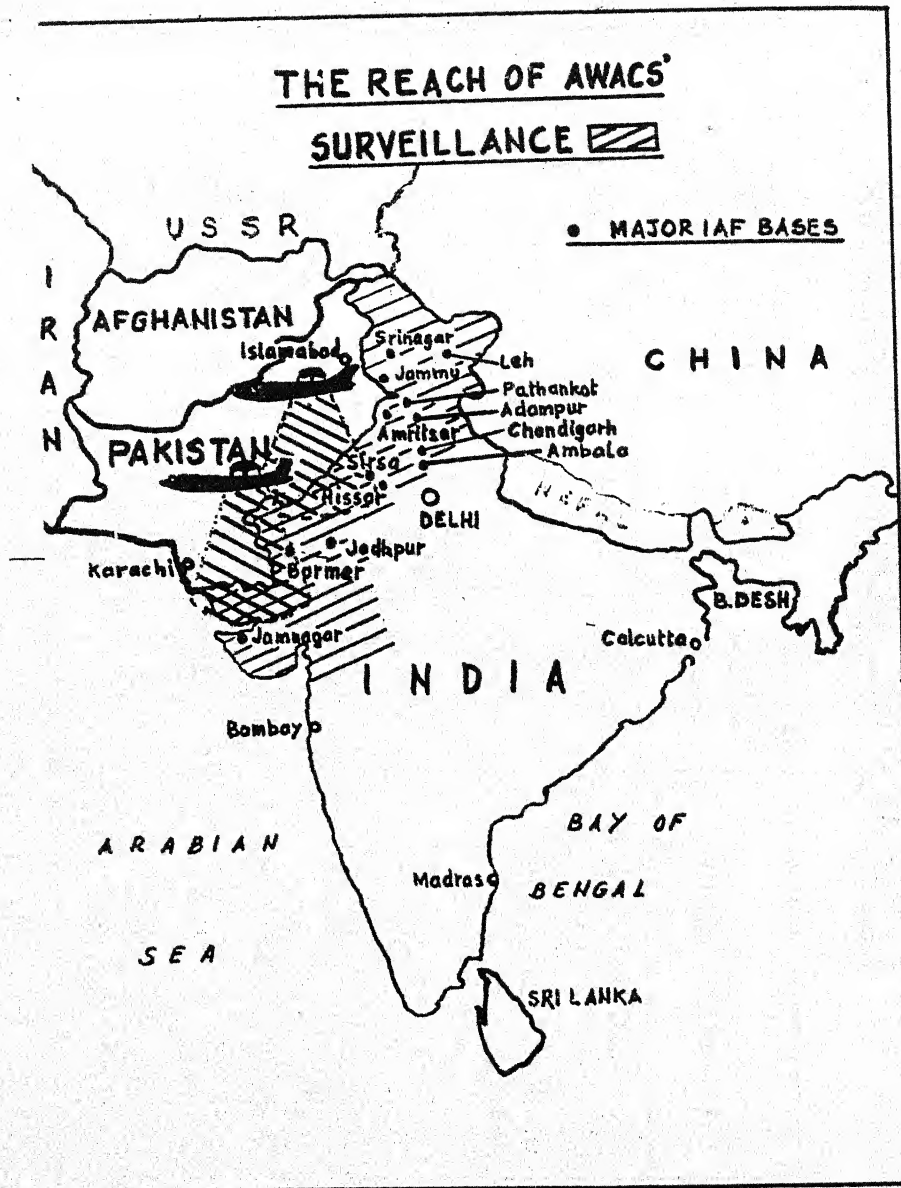
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COMPARATIVE DEFENCE PROJECTION

	CHINA	PAKISTAN	NEPAL	INDIA
TOTAL ARMED FORCES (IN LAKHS)	42.0	4.79	0.25	11.2
AVAILABLE MANPOWER (IN LAKHS)	1592.99	162.51	20.62	1210.75
CONSCRIPTS SERVICE PERIOD				
ARMY	2-4 Yrs	VOLUNTARY & LASTS 2 Yrs	VOLUNTARY & LASTS 2 Yrs	VOLUNTARY
NAVY	5 Yrs			
AIR FORCE	4 Yrs			
ALLIANCES & ORGANISATIONS	IACO, UN IAEA, UN 30 Yrs. TREATY WITH USSR	ADB, COLOMBIA PLAN, GATT IAEA, G-77 ICAO, OIC, UN.	COLOMBIA PLAN, ICAO, UN	NAM, ICAO UN, TREATY WITH USSR.
ANNUAL MILITARY EXPENDITURE (OF GNP)	16%	24%	8.4%	18%



Logistics Support in the Eastern Himalayas

MAJOR RAHUL K. BHONSLE

INTRODUCTION

June 1986 could be said to be a red letter month for the Indian Army. The Chinese intrusion in the Sumdorong Chu Valley came as a severe blow to the pride and precision with which we have come to perform our role of securing our borders against alien intrusion. It was a reminder of October 1962, for today even a minor transgression is as hurting to the Indian pride as the debacle of 1962. To prevent any further forays by the Chinese it was essential that we invigorate our presence in the region. In doing so the Army has had to face one of the strongest challenges posed by nature to mankind, that of surmounting the vagaries of weather and terrain in the Eastern Himalayas.

The Eastern Himalayas of operational interest to us would consist of the areas of Sikkim, Arunachal Pradesh and the areas bordering these two states in Tibet. While Sikkim and Arunachal Pradesh are quite inhospitable, the Tibetan tracts are more so with heights over 4500 metres, extremely cold weather and further distancing of logistics bases from the plains of India. The Eastern Himalayas was virgin territory before the army decided to make its presence felt in tune with government policy. Lack of communication links with the rest of the country had preserved the beauty and serenity of the land but considerations of defence necessitated disturbing this aura of innocent charm. Sparsely populated, the region remains untouched by the vestiges of civilisation on its southern fringes. It is an under developed area and it is therefore axiomatic that the administrative problems would be enormous.

The British who ruled the plains bordering the Eastern Himalayas feared to tread in this area inspite of their fierce adventurist spirit. It was thus left to the Indian Army to pioneer its way through the mass of jungle and snow. When the Army moved in 1962, it retired grievously hurt. While the strategic and tactical causes of this debacle have been extensively discussed, the logistics aspect is generally ignored. A deeper study of the engagements would reveal that 1962 was as much a logistics failure as a tactical and strategic one. It was an all too familiar story of troops without proper clothing and guns without ammunition and these aspects touch just the periphery of the problem of the vast canvas that logistics represents. Our experience in successfully conducting operations in Jammu and Kashmir in 1947-48 had perhaps generated unto us a sense of confidence which was found misplaced for the logistics problems in the Eastern Himalayas are vastly different and even

more dynamic than that in Kashmir. It is therefore essential that the tendency to view our entire mountain belt as a single entity and evolve common problem solving methods be avoided and a fresh view of the logistics considerations be attempted.

AIM

The aim of this paper is to analyse the various factors which affect operational logistics in the Eastern Himalayas region and suggest measures to alleviate the administrative hazards at the macro as well as the micro level.

TERRAIN ANALYSIS - THE LOGISTICIANS VIEW

Flanked as it is by Tibet in the north, Burma in the east and the Brahmaputra Valley in the south, the Eastern Himalayas present us a curious mix of all these regions. Starting from our borders in the north, the terrain assumes a tiered configuration of mountains with ridge lines interspersed by spacious valleys. In the Kameng-Towang sector for example there are four such ridge lines namely the watershed of the MacMahon Line, the Sela massif, the Bomdila massif and the Sessa-Nichu Phu ranges. The first two tiers remain snow bound for most parts of the year, where altitudes peak to 5000 metres and the peculiarities of the area render survivability difficult. In East and North Sikkim except for the plateau region the terrain is much the same. In the Siang-Subansiri region the mountains are less demanding but the dense forests and steep ridge lines take on their own hazardous complexion. The Tirap area provides us another dynamics akin to the jungles of the Hill states of Nagaland and Manipur.

A critical factor in the analysis of terrain from the logisticians point of view is the paucity of communications. The enormity of terrain has demurred the development of communications in the region. Rail communications is virtually non-existent while the road communications are sparse as compared with the vastness of the region. The area is densely forested with primary as well as secondary jungles. The ridge lines being steep and rocky do not favour large scale cultivation. Local resources are thus sparse. Apart from an abundance of timber other basic building materials are not available. The climate in the Eastern Himalayas would tell its own story. The winters in the northern part are extreme. Survivability above 3500 metres is difficult without adequate precautions. The monsoon season extending over three months in a year gives little respite. This combination of terrain and climate has rendered the Eastern Himalayas one of the most difficult areas in the country except perhaps the glacial wilderness of Siachen. Comments are frequently heard from people with experience in other difficult areas classifying it as by far the worst to live and fight in.

GENERAL LOGISTICS HAZARDS

Paucity of Communications. The paucity of communications in Sikkim and Arunachal Pradesh is a major constraint on logistics. The availability and reliability of the roads reduces as one moves away from the plains, north and north eastwards and as the northern tracts are the ones of main operational interests, the sliding scale rule applies to the denigration of logistics convenience. A very specious argument of not building too many roads for fear of opening them to the enemy is frequently put up with little logic. For roads must be constructed to sustain minimum envisaged deployments and negative logic being defeatist in nature can never be applied to military situations. This apart the configuration of most roads is longitudinal thus there is an absence of laterals within the region isolating each of the sectors. The road classification is poor. Apart from the handful of main roads which are class 9/18 two way, black top, all weather, other roads are mainly one way fair weather. Efforts are however at hand to undertake the development of a road network on priority but for another decade or so till the settling of the newly constructed roads takes place the problem will remain.

Weather. The weather in the Eastern Himalayas is particularly hostile throughout the year. The winter extending from December to April is severe. This is followed by an equally severe monsoon which extends for three months from June to August and frequently spills over to September. This weather imposes heavy burden on the administrative infra structure. During winter survival is difficult due to extreme vagaries of the weather. During monsoons communications are frequently disrupted due to heavy rains. Supplies and equipment are affected by the harsh weather throughout the year. April-May and October-November are the only reasonably good months in the region from the weather point of view.

Local Resources. The Eastern Himalayas can be ranked as one of the most inhospitable regions in the world for flora and fauna. Local resources of food and supplies are hence scarce partially due to the non-exploitation of rich natural potential. The numerous Valleys have great scope for agriculture and animal husbandry but this asset is being tapped only recently. Timber however is available in plenty.

Health and Hygiene. The perils of terrain and climate in the Eastern Himalayas are a great hazard to health and hygiene. During the winters the danger is of snow and cold diseases. The effect of high altitude is ever prevalent throughout the year. There is thus a necessity of deployment of a large quantum of medical resources in the area.

Reduction in Human Efficiency. Besides high altitude, the climate effects

in the Eastern Himalayas are such that there is a general reduction in the efficiency of individuals. Mental blocks are common and occur more frequently than physical inefficiency. Creativity is particularly affected. The problem is a combination of the effects of altitude, desolateness of terrain and weather.

Equipment Performance. The average altitude varies from 600 to 4000 metres. Most of the terrain falls in the high altitude region as such a heavy reduction in equipment performance is to be expected. For instance a helicopter capable of carrying 4000 kgs at sea level can be expected to carry no more than 1500 kgs at the higher altitudes, denoting a reduction in performance by more than half. A similar constraint is experienced in operating of other vehicles and equipment such as rock drills. The rate of break down is quite heavy in all cases.

Teeth to Tail Ratio. The teeth to tail ratio in the Eastern Himalayas is high. The line of communication being fairly long as a result at each stage it has to be suitably propped up thus extending the logistics tail. On a rough conservative estimate every single man on the firing line in the forward defended localities would have to be supported by three men in the rear. The effect of this is an exponential increase in the teeth to tail ratio.

Water. Potable water is generally available upto a height of 3500 meters. However on mountain tops at even lower altitudes water is a problem, the same being the case at heights above 3500 metres. Water borne diseases are easily communicable in the mountains in this terrain. Hepatitis has to be particularly guarded against. In addition amebiasis is easily contracted due to water hazards. A perennial source at altitudes above 4500 metres is snow though it is difficult to utilise.

ANALYSING AND OVERCOMING PROBLEMS

GENERAL-AN INTEGRATED APPROACH

The necessity for our armed forces to operate in the Eastern Himalayas is likely to remain unchanged over the next three to four decades as the threat perceptions are not likely to alter radically. If that be so, overcoming logistics support problems assumes importance. Logistics as we understand is an all encompassing feature of a military force. It not only affects the efficiency of the military but has considerable spin offs in the civilian sector and vice versa. It is therefore necessary that the problem of logistics in the Eastern Himalayas be solved in conjunction with the development projects being undertaken by the civil administration so that a common infra structure is built up for the benefit of all.

There is also a necessity of solving the problem with a holistic approach rather than extempore reactions to each minor irritant as it arises. Thus for

example the solution to the problem of supplying atta is not just that of transporting atta from Assam to the state, moving it by various modes such as train, MT, AT or air and finally man packing it to the forward defended locality. An integrated approach could well mean that the potential in the Valleys of Dirang or Zimithang could be exploited to grow more food within the close proximity of the forward troops thus obviating the necessity of the long chain of supply. On the other hand this would provide well deserved means of employment as well as sustainment to the local population, introducing relief measures and taking them away from traditional means to more intense means of agriculture. In line with this approach the Defence Research and Development Organisation (DRDO) has undertaken some projects to exploit the potential of this region. But this is a small step. Other fields too deserve attention. It is only through an integrated approach that we can reduce the logistics burden from a long term view. A systems approach thus would envisage shifting of the logistics base from the plains of India, Assam and Bengal to the reasonably hospitable valleys. The aim being not only to reduce the turnaround from the base to the forward troops to 24 hours from the present 72 to 96 hours but also to build up a local resources base in terms of food and fodder.

The numerous problems of administrative support in the Eastern Himalayas are thus analysed and solutions presented in the succeeding paragraphs.

DEVELOPMENT OF NATURAL RESOURCES INFRA STRUCTURE

We have already seen that the Eastern Himalayas are devoid of natural resources which is a combination of the factors of the harshness of terrain, and under development. However within this region are numerous areas particularly those in and adjacent to the salubrious valleys which can be utilised for development of agriculture, dairy products and animal husbandry projects which would assure the creation of a natural resources infra structure. The abundance of grazing facilities even upto altitudes of 3500 metres could be suitably exploited. The region can deliver a high produce of potatoes, corn and even fruits such as apples and oranges. Similarly sheep breeding can be undertaken at high altitudes as the local graziers would bear testimony. The attendant benefit of the betterment of the living conditions of the local populace can hardly be ignored. Thus the development of an imminent infra structure is the first step recommended for alleviating the problems of logistics support in the Eastern Himalayas.

ROADS AND TRACKS

Roads and tracks assume great importance in the mountainous Eastern Himalayan tract due to their scarcity and the susceptibility of these few roads and tracks to numerous interruptions. Most roads are Class 5, one way fair weather. These can take limited three ton traffic as far as it is not sustained over a period of time. The maintenance of the road communication network and the operational tracks is a major concern. At times even forward troops would be committed on this task particularly during the monsoons. Mule and foot tracks too deserve special mention. All animal transport tracks need to be soled with stone and or wooden logs to facilitate their utilisation during the monsoons. Unless soling is resorted to the tracks would not be operational in bad weather. The effort required for soling is quite heavy. A task force of 100 men can sole merely 500 metres in one day in an area where logs and stones are easily available. In other areas additional explosives and manpower would be required. Soling should be carried out prior to the outset of the monsoon as the pre monsoon showers with intermittent dry spells would enable setting of tracks before the severe monsoons break in.

A similar requirement on a much larger scale would be necessary for a Class 5 road and other roads of higher classification. This task is obviously better suited to be carried out by the Border Roads Organisation.

The paucity of communications renders traffic control an essential feature to ensure maximum utilisation of the road space as well as avoid breakdowns and bottle necks due to over use. Convoy timings will be a common feature in the mountainous terrain. Traffic control posts will have to be established to control traffic. These need to be composite control points with recovery as well as medical arrangements.

LOGISTICS VEHICLES

The peculiarity of the mountain roads and operational tracks visualises the necessity of a logistics vehicle with a smaller turning radius, lower centre of gravity and at the same time a better load carrying capacity without being affected by terrain and altitude. The ability to operate in extreme cold climate is another pre-requisite. While winterisation could effectively offset the disadvantage, introduction of vehicles with in built winterisation could be attempted. All vehicles have to be preferably four wheel drive to operate off tarmaced roads.

CARRIAGE OF LOADS

In the Eastern Himalayas due to the poor development of communications arrangements for carriage of loads assume great importance. While

movement of ammunition stores, supplies and equipment upto roadhead is a major problem because of the lower specification of roads, susceptibility to adverse weather and limited space restricting two way traffic, beyond the road head the problem of movement of loads assumes gigantic proportions. The sources available being as follows:-

- (a) Animal Transport.
- (b) Porters.
- (c) Helicopters/Air supply.

Animal Transport. Animal transport is a load carrying agency with maximum capacity in the mountains. A mule section is capable of moving loads upto half a ton in high altitude areas over distance of 12 to 15 kms in a day. A troop of eight sections can be expected to move four tons of load each day over the same distance. To move the same quantity two and a half helicopters MI 8 or MI 17 and 160 to 200 porters would be required. However mule transport suffers from numerous disadvantages as follows:-

- (a) Mules have large domestic logistics requirement.

(b) Cross country movement even on goat tracks or pony trains is virtually impossible. A track of minimum two metres width has to be developed for employment of mules. Besides this track has to have a gradual gradient, be soled and regularly maintained to ensure sustained move of mules.

(c) Mules require acclimatisation before employing them in high altitude terrain. Presently mules are bred mainly in the plains of Uttar Pradesh and thereafter inducted into mountainous and high altitude terrain. These thus require extensive acclimatisation and even then do not get used to operating in the mountains and high altitude terrain.

Porters. Porters have to be invariably employed where tracks cannot be developed for the use of animal transport. Similarly in many operational situations such as for the move of reorganisation stores, porters remain the only option. These suffer from a major disadvantage of limited load carrying capability. Fighting porters have to be invariably employed due to the limited population in the Eastern Himalayas.

Helicopter/air supply. The employment of helicopters and air supply for carriage of loads is susceptible to a number of disadvantages such as reduced load carrying capacity in high altitudes and constraints of weather. But the same does not preclude its use as the flexibility and emergency resupply capabilities offered by its use are excellent advantages. Nevertheless its availability is to be always treated as a bonus and cannot be planned for.

OVERCOMING PROBLEMS OF LOAD CARRIAGE

The operational efficiency of a force in the mountains depends on its capability for carriage of domestic loads including ammunition, ration and equipment. The speed and distance to which load can be carried would therefore determine the mobility of a force. It is thus essential that this problem be solved with urgency. Some suggested measures are given below.

Development of Animal Husbandry in High Altitude. The current practice of breeding mules in the plains and later employing them in high altitude terrain is not proving effective. There is a necessity for developing animal husbandry units in the terrain where employment of the animals is planned. Even if such rearing is not possible on the mountain tops, numerous valleys could be exploited for establishment of such breeding centres. Another area which can be developed is rearing of the versatile Yak. The Yak is ideally suited for high altitude and can operate at all heights over 3000 metres. Its load lifting capability is the same as the mule but has an added advantage of limited domestic logistics requirement as the yak can sustain itself on local fodder and eat-icicles for water. It does not require specified track for movement and can operate even cross country for reasonable distances. Another versatile animal in the high altitudes is the burro like local pony, rearing which could be attempted easily in the numerous valleys of the region. These local animals require a break in period as they are extremely temperamental and hence somewhat difficult to adjust to the military requirements.

Porter Units. The load carrying capacity of local porters is twice that of persons from other regions. It is therefore essential that porter units should be raised for the carriage of loads with each porter capable of carrying upto 30 kgs of sustained periods. The paucity of population in the mountains can be made up by enrolling even women in such units as their load carrying capability is the same as men.

Helicopter/air supply means. The necessity for introducing a helicopter with all weather capability and ability to operate with more effective loads at higher altitudes is paramount. There is a need for indigenous development of such a machine as only three countries in the world would require this technology; India, China and Pakistan. Thus foreign pastures for this technology are not going to be available. Similarly there is a necessity of developing an aircraft capable of all weather performance.

SUPPLIES

Today supplies to troops deployed in the Eastern Himalayas are transported from the plains. The story of a goat or a sheep from Rajasthan being transported to remote Nathula or Teju is not a strange one. Milk is not obtainable in the region resulting in excessive utilisation of milk powder with

attendant health hazards. As troops from the northern parts of the country are heavily dependent on milk and milk products for nutrition this deficiency deserves special mention.

The requirement of high energy food for conducting sustained operations in the area has hardly been ignored. While the rations today are nutritious, certain other areas could also be exploited. Yak product could provide a veritable store house of high energy food. The yak is as versatile as the cow and provides milk, butter and cheese locally known as, "churbi". Yak meat is also very nutritious. However the inhibitions to eat this being similar to beef, would be difficult to overcome. Beef also deserves mention in this respect. Development of a ration of the composite variety in vogue in the pre 1975 period which is ideal for manpack sustenance also needs consideration. Items such as fast cooking noodles could form a part of these rations having found acceptance amongst our troops today.

The requirement of motor fuel is comparatively less due to lesser dependency on fuel borne transport. But vehicles consume greater quantity of fuel and reduced kilometres per litre (kpl) due to gradient and altitude. There is a great requirement of winterised fuels and lubricants which is frequently ignored. Adequate stocks for these have to be built up without which operations cannot be sustained during the winter. Similarly the requirement of kerosene oil for cooking and warming purposes is also very large. Keeping in view the environmental hazards even below the tree line troops should be supplied kerosene oil to prevent them from denuding the forest resources.

MEDICAL

The essential feature of health maintenance in high altitude terrain is acclimatisation and avoiding over exertion. These two factors will go a long way in reducing casualties. Acclimatisation schedule has to be rigorously enforced and the general tendency to shirk it or cut short the period should be avoided. This will also ensure a vastly efficient force. Historical examples of General Zorawar Singh's campaign in Tibet should not be ignored. It was the inuring of his troops to cold and high altitude conditions that ensured a successful conduct of the expedition. The availability of medical facilities is also directly related to morale. Where resources would permit maximum sub units especially those at isolated and hazardous posts should be provided with a medical officer.

Casualty Evacuation. Another aspect of medical is casualty evacuation. It poses a major problem in the high altitude and mountainous terrain. This is so as the means of evacuation are extremely cumbersome and time consuming. To organise this a uniformity in the chain needs to be established thus:-

--Maximum use of helicopters for casualty evacuation from forward posts and picquets is envisaged. Each post has to have a helipad suitable for a light helicopter.

--Location of regimental aid posts and advanced dressing stations well forward. These have to invariably have larger helipads.

--Since bad weather is likely to preclude evacuation by air in most instances adequate facilities for evacuation by the land route whatever its configuration should be established. Staging posts invariably needs to be at four hourly intervals to establish a viable evacuation chain.

CLOTHING AND EQUIPMENT

Today the clothing and equipment available to troops operating at high altitudes is adequate to ensure survivability. The only drawback being that of weight. Lighter equipment such as snow mattresses and sleeping bags are available extensively in the world market today. These need to be procured or indigenously produced. Similarly availability of light snow tentage can also be explored. As most of these loads have to be carried by individuals it will go a long way in ensuring the mobility and survivability of the troops in this area.

AMMUNITION

The load of greatest consequence in any military logistics requirement is ammunition. Its weight, volume, reactivity and general cumbersomeness makes it very highly administration intensive. While small arms ammunition would pose lesser problems especially with the introduction of the 5.56 mm INSAS, artillery ammunition would be the biggest impediment. Introduction of light ammunition into service is a much vaunted issue but one which cannot be expected to be solved in a reasonable time frame. A measure which can be implemented immediately is that of palletisation of loads. Thus each ammunition load starting with a manpack one can be build up progressively to form larger pallets which can be moved on mules, one ton and 3 ton vehicles and helicopters. Mechanical loading and unloading facilities at each transfer points as well as gun areas would greatly ease and speed up loading and unloading.

REPAIR AND RECOVERY

Ironically though the quantum of mechanical equipment in the mountains is less, the requirement of repair and recovery facilities is extensive. This is so because of greater number of breakdowns due to the rigours of the terrain and climate. This apart equipment such a radio sets and rock drills have to be maintained at altitudes over 4000 metres. Under such circumstances the repair and recovery resources will be invariably over stretched.

Workshop detachments would have to be split in smaller configurations not normally advocated. Lack of flat areas and hard standing would thus have to be made up by ingenuity and improvisation.

Most mountain roads in the Eastern Himalayas are operational tracks which are yet to stabilise. The surface is thus a great hazard for motor vehicles. Besides the effect of high altitude reduces the Mean Time Between Failure (MTBF) considerably. The essential measure to overcome this drawback is to develop indigenous technology for vehicles and equipment which can be used in this type of terrain. This is so as equipment with requisite characteristics is not available in the world market as the terrain/weather configuration is peculiar to our northern borders. In as much as vehicles are concerned additional spares particularly tyres, road springs, clutch plates and brake accessories have to be catered for with the workshops as well as unit repair teams. Workshops will have to undertake quite heavy workload contrary to popular belief as the number of breakdowns is large. Adequate recovery resources have also to be catered for. Scaling of recovery vehicles could be roughly worked out at the rate of one vehicle for every 10 kilometres of an operational track in addition to those at critical defiles. For tarmac roads a recovery vehicle every 50 kms stretch with a 10 percent reserve is essential in addition to those at critical defiles.

WATER

To overcome the problem of the shortage of potable water the following expediciencies need to be resorted to:-

- Divising deicing kits which can easily convert ice into potable drinking water at higher altitudes.

- introduction of simpler water purification and filtration sets with larger capacities but at the same time light to carry.

- Better individual water sterilisation kits.

- Effective enforcement of water purification drills.

CACHE CONCEPTS

For sustainment of small forces such as stay behind parties, patrols and early warning elements the concept of development of a chain of caches along the likely route of operations should be employed. These caches would greatly increase the mobility of such parties, rendering them free of load carriage for the operational period envisaged. The caches should be stocked with composite loads of rations, ammunition and spares such as batteries. Due to the effect of the altitude and weather, preservation of rations at least

is ensured. Even on the normal maintenance routes such caches could be located and suitably replenished so as to reduce the load of individuals during routine movements. The locals too adapt this concept to an extent with the "goth" huts at halting places enroute well stocked with wood and other cheap necessities of life. A sophisticated version of this is the Alpine huts concept followed in the European countries.

SUMMARY OF RECOMMENDATIONS

A summary of recommendations to overcome the logistics problems in the Eastern Himalayas made in this paper is as follows:-

--Development of natural resources infra structure within the region to include intensive agriculture, animal husbandry and dairy development projects.

--Introduction of a better logistics vehicle with shorter turning radius, load carrying capacity and in built winterisation.

--Construction of roads and tracks to support the minimum envisaged deployments.

--Raising of yak units.

--Raising of local porter units.

--Development of an all weather helicopter for high altitude operation.

--Lighter winter clothing, for winter, equipment and tentage.

--Introduction of simpler unit and individual water filtration equipment.

--Development of a chain of caches on the Alpine huts concept.

--Palletisation of basic ammunition loads.

CONCLUSION

The logistics problem of conducting operation in the Eastern Himalayas cannot be equated to that of the other mountainous areas of the country as Jammu & Kashmir. Having suffered a severe setback a quarter century ago in this region, a blow which was as much an administrative failure as a tactical one, logistics assume added importance for consummation of operations in the area. We have now built up extensive experience in this region and can thus apply ourselves to solving the problem more realistically. An attempt is made in this paper to view the problem at the macro as well as at the micro level wherein the peculiarities of the area have been gauged and survivability

solutions devised.

The development of a local resources infra structure would be an ideal answer to some of the logistics problems of the Eastern Himalayas. For unlike the glacial regions of Ladakh this region has adequate potential for it. The spin offs of generating employment and evincing interest in the people of the region seeing its collateral benefits are tremendous. Logistics would thus not only prove beneficial to the army but also to the region as a whole. The requirements of the armed forces are such that at times it results in alienating the local population but their sensibilities have to be taken into account if lasting results are to be achieved. Thus special efforts need to be made to prevent disturbance of the peculiar culture and identity of the local populace.

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Wavell and his Accomplishments in the Middle East 1939-1941 - Part II

A Bibliographical Review

CAPTAIN HAROLD E RAUGH JR US ARMY

Biographical sketches of Wavell first appeared, expectely, in 1941, in the wake of his great victories in North Africa and Italian East Africa. Harvey Arthur DeWeerd (later Major Deweerd, United states Army, Associate Editor of *Infantry Journal* included a chapter on Wavell in his *Great Soldiers of the Two World Wars* (New York: W.W. Norton, 1941).. Though obviously written in the early years of World War II, DeWeerd was highly complimentary of Wavell, the only British general of World War II included in his book:

Wavell was the first British soldier of World War II to grasp the full lessons of the German campaigns in Poland and France and apply them to the conditions of desert fighting. He was the first British soldier in this war to coordinate effectively the full power of British sea, land, and air forces in a single campaign . . . The Libyan victories were the cheapest triumphs ever won by a British force against a European adversary - if not the cheapest in all British military history. (P.306).

Also in 1941 Wavell was among a select group when his biography was included in Rene Kraus' *The Men Around Churchill* (Philadelphia: J.B. Lippincott, 1941). There were only two soldiers included among those who were "working with him [Churchill] in his epochal battle for liberation and justice": "The king's First solider - Sir John Greer Dill", and "The General of the Desert - General Sir Archibald Wavell." This highly laudatory account emphasizes Wavell's qualities of generalship and ability to deceive the enemy. In commenting on the results of the British Libyan blitzkrieg, Kraus quotes Marshal keitel, Supreme Chief of the German High Command (*Oberkommando der wehrmacht*, or OKW) as saying "Wavell is the best general the British have, and he is very good" (P. 224). Both of these early short biographies are hagiographic in nature, but it is imperative to recollect public opinion at this time and the psychological effect of Wavell's victories in raising morale on the home front.

The first two volumes of the British official History *The Mediterranean and Middle East* (Volume I - "The Early Successes against Italy (to May 1941)" and Volume II- "The Germans come to the Help of their Ally (1941)," both London: Her Majesty's stationery office, 1954 and 1956, respectively), by

Major-general I.S.O Playfair, C.B., D.S.O, M.C, and others, provide an excellent overview of all of Wavell's campaigns in that theater, buttressed by the use of a multitude of official documents and detailed scholarly research.

After explaining Wavell's "transfer," Playfair lauds not only Wavell's accomplishments, but also his personal attributes and brilliant generalship. Wavell's charismatic leadership is further expounded upon in these pages, with Playfair adding that "a visit from the commander-in-chief [Wavell] was not a visitation but a tonic" (p. 246), and "He was essentially a soldier's soldier, and takes an assured place as one of the great commanders in military history" (P. 246).

Major-General H. Rowan-Robinson, C.B, C.M.G., D.S.O, in 1941 wrote *Wavell in the Middle East* (London: Hutchinson, n.d. (1941). Major-General Rowan-Robinson was cognizant of the fact it was basically impossible to write an authoritative account of events that had occurred only a short time before, but understood the value of

...contemporary accounts written hot upon the tread of events, amid the rise and fall of hopes and fears, and coloured [sic] with the recent personal experiences of participants, have now, as ever, a value in building up the more complete history of the future.
(Preface, p. 7).

This book starts with an overview of the situation in the Middle East upon the outbreak of war, when the British were numerically weak and inadequately-equipped. At that time, though the British strategic position was relatively strong, but it became quite precarious after the defeat of France and Italy's entry into the war. Major General Rowan-Robinson ably describes all of Wavell's campaigns in the Middle East, using information gleaned from official summaries and other reports, adding additional information from his own personal experiences as a soldier with service in the Middle East. In his conclusion, the author bemoans the lack of preparation for war: "The failure to prepare has been paid for in wasteful bloodshed and in defeat that verged on disaster" (P. 227); and the need for central military control manifested in a well-staffed Ministry of Defense.

The Campaigns of Wavell, by Donald Cowie, was published the following year (London: Chapman & Hall, 1942). In his preface, Cowie alerts readers that his book is not just a compilation of cold facts and figures, but is

...rather a most appetizing story of blood, murder, grand larceny, hunger, privation, thirst, arson, sabotage, cowardice and valour [sic], bound together by an account of how one British general, Archibald Wavell, redeemed his countrymen's martial reputation in the

best-planned and most remarkable series of campaigns since those of Wellesley in the Peninsula.(p. v.).

Cowie covers basically the same ground as Rowan-Robinson, but uses much more colorful language. He condemns the British expedition to Greece, and further states the evacuation of Crete was a tragedy, the result of ill-preparation on the part of the British. In summing up General Wavell's campaigns in the Middle East, Cowie states "he [Wavell] achieved all he set out to achieve - the conquest of Cyrenaica, Eritrea, Italian Somaliland, Abyssinia, Syria, Iraq, Iran and the reconquest of British Somaliland - to fail only in the tasks outside his original plan which had been forced upon him." 22

Written after a great deal of research and from a less emotional point of view, Robert Woolcombe's *The Campaigns of Wavell, 1939-1943* (London: Cassel, 1959), covers Wavell's campaigns in the Middle East as well as those in the Indian/Asian Theater. Woolcombe admirably chronicles all of these campaigns in an objective and detached manner. He posits that Wavell was beset with a multitude of difficulties that few commanders, before or since, have had to face, even in adversity. Infact the author gives Wavell the appellation of "Adversity's General." It is not meant in a pejorative manner, since Woolcombe apparently admires his subject:

The absence of Lord Wavell from the London Victory parade in 1946 was not publicly remarked. Yet he had been Commander-in-Chief in the British Empire for longer, and operationally responsible for wider theatres, than any other British soldier of either World War. For almost four years, an Arthurian figure, he was concerned with military problems of pure survival. With the same composed strength he had met triumph and disaster. He had directed the most extraordinary victory, and had weathered the most humiliating defeat, known to British arms.(p. 207).

In the Foreward to this book, Field-Marshal Lord Alanbrooke eloquently stated:

It is my fervent hope that the account of the campaigns of Wavell may be extensively read and deeply studied, so that the true stature of this very great man may be fully appreciated, and that adequate feelings of gratitude may be engendered for the immense services he rendered under conditions of appalling difficulty. (p. X).

This well-written, balanced account of Wavell's campaigns also includes an informative "Biographical Outline" of Wavell's life.

A number of studies have been written about Wavell's North African

campaigns, the first few books having been written by war correspondents who actually observed and/or took part in those campaigns. Though written in a more journalistic manner, they tend to capture the emotions and feelings prevalent at the time. Alexander Clifford, who spent more than thirty months in the Middle East as special correspondent of the *the Daily Mail*, wrote *Three against Rommel*, subtitled *The Campaigns of Wavell Auchinleck and Alexander* (London: George G. Harrap, 1943). The first third of the book pertains to all of Wavell's campaigns, not just those in North Africa, interspersed, through with the author's own personal experiences, observations, and opinions. As such, it does not possess the impartiality or accuracy of an official history, but the personal comments and perceptions are invaluable in their own right. Clifford stated he felt Wavell's removal to India was in the nature of a disgrace after the spring defeats. "But," Clifford continued, "we hoped not. For the curious thing was that, inspite of Greece, Crete, Cyrenaica, Wavell still retained the respect and affection and confidence of the troops in the Middle East." (p. 106). A recurrent theme running through all of the narratives of Wavell's campaigns is of Wavell's tireless concern for the welfare of his men and his charismatic leadership.

A companion of Clifford was Alexander Moorehead, correspondent of the London *Daily Express*, who wrote *The March to Tunis: The North African War 1940-1943* (British title: *African Trilogy* (New York: Harper & Row, 1965). This book actually is a compilation of the three books: Moorehead asserts that the war in Africa and the Middle East fell into three twelve-month periods: the Wavell period, 1940-1941; the Auchinleck period, 1941-1942; and the Eisenhower, Alexander, Montgomery period, 1942-1943, with each of these three periods corresponding, respectively, to one of his three earlier-written, aforementioned books. Wavell himself wrote the foreword to the first edition of this book (1944), and lauds Moorehead for also writing about "the human factors [of war] that are so often overlooked when the cold, critical official histories come to be written." (p. 7). Moorehead was a perspicacious observer of people, places, and events. In his "An Additional Preface," Moorehead states he believes the "Greek adventure" was a mistake, and if Wavell's forces had not been diverted to Greece, there was a high probability they could have advanced to Tripoli.

Raoul Aglion, who served as attache at the French Legation in Cairo in 1939-1940, dedicated his book *War in the Desert: The Battle for Africa* (New York: Henry Holt, 1941), to "Sir Archibald Wavell, hero of the Desert, and to the glorious Army of the Nile." Although this book is more of an historical chronicle of conflict in the North African region, Aglion includes two chapters explaining in great detail the Italian colonization of Libya and East Africa region, Aglion includes two chapters explaining in great detail the

Italian colonization of Libya and East Africa, as well as two chapters about Wavell's Libyan offensive. The greatest contribution of this book is that it relates the 1940-1941 military events in North Africa and Syria from a Free French perspective. Aglion praises the Commander-in-Chief, Wavell, who was given the revered sobriquet of "The Foch of '41" by the Free French.

The Battle for North Africa (New York: Charles Scribner's sons, 1969), was written by John Strawson. He not only fought in the Middle East during World War II as a junior officer, but was a brigadier when he wrote this book. In Chapter I, Strawson relates that numerous books have been written on the North African campaigns, but unlike all the others, the purpose of his book is

not to summarize or reiterate previous accounts of the campaign either in general or particular, but rather, against a background of strategic and tactical development, to trace the changes in the way battles were conducted during the three years, 1940 to 1943, and to see from the viewpoint of those who did it what the fighting was actually like. (p. 2).

Strawson ably accomplishes his mission, with Chapters 2 through 4 being devoted to Wavell's North African campaigns, including information on the distracting influences of his other, peripheral campaigns. Strawson has studied these operations for years, and his assessment of Wavell is quite laudatory, praising him for his prescience, unflagging spirit, unorthodoxy, breadth of vision, and "well-balanced strategic courage." At the same time, the author deprecates Churchill's incessant flow of telegrams to Wavell which not only urged Wavell to take the initiative and regain the offensive, but more often than not contained "minutely detailed tactical instructions." Strawson states

Wavell was one of the great commanders of history, and perhaps his greatest misfortune was that, whilst he was engaged in being a potential Marlborough, he was serving a man who, family connection aside, thought of himself as an actual one. (p. 68).

A much more scholarly and well-researched account of these same battles is found in W.G.F. Jackson's *The North African Campaign 1940-1943* (London: B.T Batsford, 1975) which includes a large number of highly-informative sketch maps. The intent of this book is "the study of human endeavour [sic] as men fought with inadequate resources to make good British and American military neglect." This book is insightfully and lucidly written, making use of numerous documents to include the journals and diaries of many of the leading military and political figures involved in these campaigns.

The first of the three sections of the book is entitled "British Imperialism," and included the entire period in which Wavell's campaigns were inextricably entwined, and all are chronicled in rich detail.

Jackson considers the decision to send a British expeditionary force to Greece to have been "the first British strategic misjudgment," and states Wavell made "several unfortunate decisions" in task-organizing all his forces in view of the requirement to send troops to Greece. On 19 February 1941 Wavell reversed his former position on the "Greek adventure," this time favoring action in the Balkans, constituting the "second strategic misjudgment." The third and fourth judgment errors were, according to Jackson, the British resolve to send a force to Greece after the Greeks failed to withdraw to their defensive line (the Aliakmon Line) in the face of an imminent German onslaught, and the failure to assess properly the ability of Rommel to initiate an offensive. This highly-detailed book is written from an omniscient point of view, including the synthesis of Italian/German perceptions and information, and its objectivity is juxtaposed with criticism when necessary. Although critical of Wavell at times, Jackson's overall assessment is that

Wavell was no dictator. Everyone liked and admired him. He was well suited to command a British major theatre at the outbreak of a great war, his calmness in adversity, his robust stability and his obvious honesty of purpose held men's loyalty however discouraging the outlook might be. His patient husbanding of resources, his careful allocation of those resources to the various commanders in his vast theatre, and his ability to improvise [sic] enabled him to achieve much while defeat and ruin faced Great Britain everywhere in the early years of the war. The conquest of Cyrenaica, Eritrea, Italian Somaliland and Abyssinia, and the reconquest of British Somaliland and Iraq were no mean feats. (p. 132). By virtue of his superb analyses of decisions and courses of action that effected all these campaigns, his flowing writing style, the excellent use of primary sources, and multitude of sketch maps, Jackson's book is definitely one of the better studies of this subject.

Correlli Barnett's *The Desert Generals* (1960; rpt. Bloomington: Indiana University Press, 1982), was a controversial book when originally published in 1960, and was significant because it was "the first serious attempt by an historian too young to have taken part in the desert battles to assess the causes of British failure and to sit in judgement on the merits of the various commanders."²³ The majority of the controversy surrounds Auchinleck's alleged preparations for El Alamein and Montgomery's generalship and failure to acknowledge Auchinleck's preparations—which is outside the purview of this

study. Barnett feels O'Connor did not receive adequate credit for his role in planning and commanding the forces for Operation "Compass." Barnett's overall treatment of Wavell is solid but not uncritical when necessary. In the second edition the author comments on Ultra intelligence, which "lends extra weight to the charge that Churchill's decision finally to sack Wavell because of the failure of *Battleaxe* was an 'amazing injustice.'" (p. 80).

Finally, *The North African Campaign 1940-1943*, by Major P.C. Bharucha (New Delhi: Combined Inter-Services Historical Section, 1956), a volume in the "Official History of the Indian Armed Forces in the second World War 1939-45" series is also a valuable reference, but expectedly emphasizes the role of Indian units in this campaign. This work, however, has a tendency to rely too much upon the official despatches.

There has not been a definitive and detailed history written of the British victories in capturing Italy's East African possessions and the recapture of Abyssinia and British Somaliland. One of the earliest books written on the subject, *The Abyssinian Campaigns: The official Story of the Conquest of Italian East Africa* (London: His Majesty's stationery Office, 1942), is nonetheless quite informative and interesting. Even though it contains a detailed and flowing narrative, this book is generally devoid of analysis, the result of being written from the perspective of the victor shortly after the successful conclusion of the campaign. One must also consider the effect of this book on morale on the homefront. A significant contribution of this small book is the large number of photographs and outstanding maps and sketches, giving one a true perspective and appreciation of the rugged terrain and logistical difficulties that the British had to overcome. In this book Wavell's use of his strategic reserve is noted in detail.

Undoubtably one of the better accounts is *East African Campaign 1940-1941*, edited by Bisheshwar Prasad (New Delhi: Combined Inter-services Historical Section, 1963), another volume in the "official History of the Indian Armed Forces in the second World War 1939-45" series. It is a superbly researched study, albeit with an emphasis on the role of the Indian Armed Forces in the campaign, which was significant. It contains a great amount of information, to include the topography of the region and orders of battle. In the conclusion it is stated that "by his [Wavell's] perseverance and ability he ensured British victory in this region." (p. 155).

A number of accounts have been written by participants in this campaign, including W.E. Crosskill's *The Two Thousand Mile War* (London: Robert Hale, 1980), and A.J. Barker's *Eritrea 1941* (London: Faber and Faber, 1966). These books are relatively complementary, each author emphasizing the role of the force of which he was a member. The former ac-

cents the operations of Cunningham attacking from the south, with the latter telling the story of Platt's invasion from the Sudan into Eritrea. Crosskill's account is much more personal in nature, including his own experiences and anecdotes. He writes "thank God also we had, in General Wavell, a commander of exceptional intelligence and moral and physical courage who would always stick to his guns - if he believed them to be the right ones - ignoring any risk to his personal position." (p. 79). Barker, a professional soldier, considers the attack from the north- "the hammer blow" - the most important, with Cunningham's forces providing the anvil. This book is more objectively written, with a greater amount of detail, including appendices of British and Italian orders of battle. The concept and execution of this campaign was, according to Barker, "a gamble but the undertaking of such gambles when coupled with careful calculation are one of the marks of a good general and Wavell had already demonstrated his ability to calculate risks." (p. 74). It is also worthwhile to note that General Platt wrote "The East African Forces in the War and Their Future," published in the *Journal of the Royal United Services Institution*, (August 1948).

South African forces played a significant role in this campaign, as Cunninghams's three-division force included the 1st South African Division and the 1st South African Brigade of the 12th East African Division. Although emphasizing the role of the South African units and their contributions to the victory, the following two books are interesting and highly descriptive: Eric Rosenthal's *The Fall of Italian East Africa* (London: Hutchinson, n.d. (1941), and *Vanguard of Victory: A short Review of the South African Victories in East Africa - 1940-1941*, by Conrad Norton and Uya Krige (Pretoria, Union of South Africa: Government Printers, 1941).

The Greek campaign was, at the time of conception and execution, and remains to this day, the most controversial of Wavell's campaigns. The appreciations, meetings, and decisions leading up to the despatch of the British expedition are full of misunderstandings, misinterpretations, and innuendoes. Wavell's role in the early stages of this campaign is unclear, since he apparently was opposed, in January 1941, to sending a British force to Greece, and inexplicably changed his mind to favor an expedition a month later. The missing link in ascertaining Wavell's assessment of and true responsibility in the decision-making process of sending British troops to Greece may be in an appreciation of the Greek situation he apparently wrote "in Cairo late in January [1941], after Metaxas' death, and handed to Dill [CIGS], probably as he [Dill] left to return to the United Kingdom."²⁴ However, this appreciation cannot be located. A copy is believed to be among the Wavell papers still in the possession of the Wavell family, who unfortunately appear to be unwilling to permit historians access to research the Field-Marshal's papers.

Major-General Sir Francis de Guingand, K.B.E., C.B., D.S.O., who served as Montgomery's chief of staff at Eighth Army (1942-1943) and 21st Army Group (1944-1945), was a major serving at General Headquarters, Cairo, on the Inter-service Joint Planning Staff when Wavell was Commander-in-Chief, Middle East. As such, de Guingand was a member of the contingent which accompanied Wavell to the conference with King George of the Hellenes and General Papagos, Greek Commander-in-Chief, held near Athens on 22 February 1941. Shortly thereafter de Guingand conducted a reconnaissance, on Wavell's instructions, of the Aliakmon Line, the Greek defensive position in northern Greece. Based upon those experiences, and subsequent work on the Joint Planning Staff, de Guingand wrote *Operation Victory* (London: Hodder and Stoughton, 1947). In this book, de Guingand states "our strategy in Greece can be looked upon as a test case respecting the relationship between the political and the military factors." (p. 77) De Guingand is particularly critical of the role of Foreign Secretary, Anthony Eden (later the Earl of Avon), in this situation, and contends "that from a military point of view an intervention in Greece never had any chance of success." (p. 79).

An indispensable source on the Greek campaign is *Greece 1940-1941* (London: Davis-Poynter, 1976), a volume in "The politics and strategy of the second World War" series. It is a study based on the thorough research of a multitude of documents and other official sources, including many hitherto unpublished, which originated from Germans as well as British sources. Other key books on Greece include Christopher Buckley's *Greece and Crete 1941* (London: Her Majesty's Stationery Office, 1952), and *Greek Tragedy '41*, by Anthony Heckstall-Smith, D.S.C., and Vice-Admiral H.T. Baillie-Grohman, C.B., D.S.O., O.B.E. (London: Anthony Blond, 1961). Though the latter book is concerned mainly with operation "Demon," the British evacuation from Greece (Commanded by Baillie-Grohman), it gives fair and equal, in addition to insightful, treatment of the entire British expedition to Greece. In its Epilogue, a very balanced pro and con argument is given pertaining to the Greek campaign, stating "neither our statesmen nor our generals were blameless" (p. 228), but that

We were beaten in Greece for the same reason we were beaten in France and Norway. Because our pre-war policy of appeasement had left us totally unprepared for war, while, when the war began, our policy was to concentrate on the production of bombers rather than fighters. (p. 228)

In spite of the Greek campaign, the authors were convinced that "Wavell was our greatest army commander in the war." (p.224).

It is worthwhile to note that after the publication of De Guingand's *operation Victory* and General Papagos' *The Battle of Greece, 1940-41* (translated by Pat. Eliascos) (Athens: Scatzakis, 1949), Eden and Wavell intended to collaborate on a book about the 1941 British expedition to Greece, in "which Wavell would contribute the military chapter and I [Eden] the political. Unfortunately his [Wavell's] death in 1950 put an end to this idea."²⁵ Eden's own memoirs, *The memoirs of Anthony Eden: The Reckoning* (Boston: Houghton Mifflin, 1965), are an invaluable text revealing the political decisions and considerations at the highest levels which effected this campaign.

Even though the Eden-Wavell book was never written- the intent of which would have been to dispell "a number of legends and misunderstandings [which] have grown up around the Greek adventure"²⁶ and to counter the "somewhat one-sided history of events" contained in the Papagos and de Guingand accounts - Wavell wrote "The British Expedition to Greece, 1941" (his last published item), which appeared in the January 1950 issue of *Army Quarterly*. Again Wavell wanted to set the record straight:

At this stage I [Wavell] should correct two statements which have been widely spread:

- (a) that the military leaders were forced into the Greek commitment against their will for political reasons; and
- (b) that but for the Greek adventure our forces could have cleared up the North African coast for good and all.

Neither of these assumptions is true.²⁷

Wavell also elaborates on what he calls "the crux of the whole drama" (p. 181), the failure of General Papagos to issue the order to the Greek divisions in Macedonia and Albania to withdraw to the Aliakmon Line, to which Papagos allegedly agreed on 22 February 1941. Wavell's account, albeit only seven pages long, is quite illuminating. When summing up all the military activities in his command being conducted concurrently with the Greek campaign, Wavell modestly added "Those were busy days in the Middle East." (p. 184).

De Guingand later wrote *Generals at War* (London: Hodder and stoughton, 1964), in which he attempted to conduct "a sober and balanced reassessment" of Wavell. De Guingand is scathingly critical of Wavell's role in the Greek "debacle." It appears to be exceedingly presumptuous for de Guingand to conduct such a "reassessment" of Wavell, considering de Guingand had only been a major when he had been assigned to the Middle East

Joint Planning staff in December 1940. De Guingand obviously was not privy to many of the decisions effecting the Greek campaign, and admits in his earlier work, *Operation Victory*:

- "I don't claim to know the whole story by any means." (p. 44).
- "I would stress again that I don't know the whole story or the whole background to the decisions..." (p. 44).
- "We [members of the Joint Planning Staff] did not at that moment know anything of the high policy behind this decision [that the Greek campaign would have priority over all others]." (pp. 47-48).
- "To what extent she [Greece] genuinely wished us to send forces to Greece I do not know." (p. 50).
- "Discussions [between Eden, Dill, and Wavell, 19 February 1941] took place behind closed doors and we on the lower levels were all agog to know what was happening, and what decisions were being made." (pp. 54-55).
- "Being a very low form of life amongst the great constellations, I only took my place at the table during discussions [in Athens, 22 February 1941] which turned upon the purely military angle. I am therefore, not in a position to describe the whole scene, nor was I in a position to hear all the arguments used, both political and military, in favour [sic] of our policy." (p. 56).

The above six examples were found on only twelve pages of *Operation Victory*, and many more examples abound. Some of De Guingand's criticisms of Wavell in *Generals at War* seem justifiable, but de Guingand's "assessment has an intemperate quality which seems excessive in relation to the level of his position and the brevity of his experience."²⁸ De Guingand's second book seems to be an attempt to taint the reputation of Wavell, who "has never lost his colossal 1940 reputation" and "is perhaps the only great British soldier of the Second World War never to have his legend questioned by post-war criticism" (p. 15) and at the same time enhance the reputation of his "old war-time Chief, Field-Marshal Montgomery."

Martin van Creveld's "Prelude to Disaster: The British Decision to Aid Greece, 1940-1941," *Journal of Contemporary History*, (July 1974), pages 65-92 was published shortly after a number of the original documents pertaining to this affair held at the Public Record Office were declassified and opened to the public. In this enlightening article, Creveld contends that Wavell and Dill changed their minds between January and February 1941 to favor the dispatch of British troops to Greece, that recommendation being based more on political considerations than military, "in the hope that such aid would put 'a new heart' into Turkey and Yugoslavia and induce them to join in." (p. 80).

Crevelld also supports Papagos in not ordering the Greek division to withdraw to the Aliakmon Line, since "the decision to withdraw the Greek army from Thrace had been made in an exclusively *British* meeting." (P. 85) The author makes full use of all the documents available to him, and does not put any particular emphasis on Wavell's role, other than already mentioned, in the decision to send a British expeditionary force to Greece.

"Greece, March 1941: The politics of British Military Intervention," by Sheila Lawlor, was published in *The Historical Journal*, 25 (No.4, 1982), page 933-946. The intent of this article was "to concentrate on one three-day period - 5-7 March 1941 - in order to illustrate the way in which the 'Greek decision' was reached." (p. 934). Based primarily on cabinet minutes and correspondence, the author elucidates in great detail that, contrary to outward appearances of "political unanimity" in arriving at this decision, there was involved a dynamic combination of political, strategical, diplomatic, and personal considerations. Detracting from the overall effectiveness of this article is an obvious error on page 935, where 9 February 1941 is erroneously stated as the date Eden and Dill were dispatched to the Middle East, whereas the actual date was 12 February 1941. This is significant, since it reflects on the author's credibility. This article, however, is worthwhile in delineating the events of 5-7 March 1941 which led to the irrevocable decision to aid Greece with troops.

Of much greater overall interest, with more information on Wavell's role in this episode, is Robin Higham's "British Intervention in Greece 1940-1941: The Anatomy of a Grand Deception," *Balkan Studies*, 23 (1982), pages 101-126. This article apparently served as the embryo of Professor Higham's book *Diary of A Disaster: British Aid to Greece, 1940-1941* (Lexington: University of Kentucky Press, 1986). These are by far the most intriguing of the accounts listed in this review. Unlike most writers on the topic, Higham has actually walked the terrain in Greece he writes about, and his account also includes the important role of the Royal Air Force in supporting the Greeks. One factor generally overlooked in most narratives is the significance of logistics. Higham keenly writes about transportation shortages, lack of coal for fueling Greek locomotives, the gross inadequacy of ammunition stockpiles, and many other items - "all essential factors in understanding this complex scenario. Higham hypothesizes that even though neither the Chiefs of staff in London nor a "sometime lieutenant of Hussars, Winston Churchill" had a grand strategy for southeastern Europe and the eastern Mediterranean, Wavell did. Wavell was a master of deception and the unorthodox, and the author contends that Wavell apparently changed his mind about sending forces to Greece between 18 January and 19 February 1941 because he (Wavell)

... assessed the German threat to Greece as real and swift. He [Wavell] assumed that Dill, sensible soldier that he was, would be opposed and opt anyway for aid to Turkey. But he did his sums and decided that the best way to get London off his back was to agree to go to Greece, assuming that shipping delays would so hamper his movement that only a very small force would be in Hellas and need to be evacuated when the Germans attacked successfully as soon as the snow melted in the Bulgarian passes. Cairo was a hotbed of spies and so his cover plan [of sending 120,000 to 200,000 men to Greece] was the story we have been told and the deception he maintained until his death. (article, p. 114).

Higham substantiates this claim with a number of facts, and concludes that "two clear lessons and one intriguing speculation thus emerge from the British decision to aid Greece in 1940-1941." (article, pp. 122-123). These lessons according to the author, are that the British were not technically, tactically, nor mentally equipped for this task, and that the British decision-making process was faulty. The enigma that remains is: "why did Wavell go to Greece - who was he out to deceive? And was he successful in pulling off a grand - strategic deception?" (article, p. 123). The answers are not readily forthcoming, quite possibly enshrouded in the mystery that surrounds the Wavell family's inexplicable reluctance to permit anyone to have unrestricted access to research the Field-Marshal's papers.

In 1948 Wavell, who was serving as director for deBeers Diamonds, ran into de Guingand at a dinner in Johannesburg. Wavell just tapped de Guingand on the chest and remarked, "There was more in the Greek business than you know about."²⁹ The conundrum remains.

Notes:

22 "General Wavell's Campaigns- Armies and Leadership," review of *The campaigns of Wavell*, by Donald Cowie, (London) *Times Literary Supplement*, 4 July 1942, p. 327.

23 "What Happened in the Desert?", review of *The Desert Generals*, by Correlli Barnett, and *A Full Life*, by Sir Brian Horrocks, (London) *Times Literary Supplement*, 16 September 1960, p. 587.

24 Letter, Professor Robin Higham, Department of History, Kansas State University, to Captain Harold E. Rough, Jr, USA, 23 September 1986.

25 The Earl of Avon, *The Memoirs of Anthony Eden: The Reckoning* (Boston: Houghton Mifflin, 1965), p. 235.

26 Field-Marshal Earl Wavell, "Draft Preface to a proposed Account of the Greek Campaign, 1941," as quoted by Avon, p. 655.

27 Field-Marshal Earl Wavell, G.C.B., G.C.S.I., G.C.I.E., K.C.B., C.M.G., M.C., "The British Expedition to Greece, 1941," *Army Quarterly*, January 1950, p. 179.

28 Ronald Lewin, *The Chief* (New York: Farrar, Straus and Giroux, 1980), p. 64.

29 Lewin, p. 64

Personal Computers for unit Commanders

COLONEL N N BHATIA

INTRODUCTION

One of the most fascinating developments of the 20th Century has been computer revolution. Infact, the Computer revolution rivals industrial revolution of the 19th Century. In brief, whereas industrial revolution improved the "muscle power" the computerisation has ticked the "brain power". They have improved man's ability to analyse, compute and communicate at a rapid pace never foreseen earlier. The computer revolution has been therefore, rightly termed as 'information revolution', 'electronic revolution' and 'Second industrial revolution'.

SOME BASIC FACTS ABOUT 'COMPUTER REVOLUTION'

Computer is basically an electronic device, that has ability to accept data, store it internally till user needs it and automatically execute a programme of instructions, perform mathematical, logical and manipulative operations on the data stored and report the results thereupon. The earliest data processing devices were simple use of figures, pebbles, sticks, knots on strings, scratches on rocks or notches on the sticks for record keeping. The first computer ever developed was abacus which is even now used widely as a calculator. However, the use of electro-mechanical machine for automatic processing of data recorded by holes punched on paper cards was developed in the 18th century. Ever since Charles Babbage, the first person who in 1833 developed the mechanically steam driven computing machine, to first Electronic Numerical Integration and calculator (ENIAC) weighing over 30 tons developed in 1946, the computer development thereafter has been phenomenal. In the last two decades the quantum jump has been to 4th or probably the 5th generation of computers which use large scale integration (LSI) both for logic and memory, replacing magnetic tapes with micro electronic semi-conductors-emphasis being on micro miniaturisation reducing size and power requirements on one side, while increasing the processing speed on the other. Thus, the whole gamut of computer technology is towards micro miniaturisation on a chip to small portable size typewriter units associated with memory system and artificial intelligence, having variety of inputs, outputs and secondary storage devices called peripherals. Micro processor unit (MPU) is an individual micro computer central processing unit (CPU) on a tiny chip, making it an important milestone in human history

which has made a more far reaching impact on our society than any other single invention that one can think of in the last two centuries. The research is on to enhance slower processing speed, smaller memory, lesser input/output capabilities which has resulted in a constant contest in computer potentialities and requirements in unknown situations with insufficient data. Computers, are thus, coming to our aid liberating us from heap of unwanted data and mental drudgery giving us time for conceptual thinking and creativity.

WHAT IS A PERSONAL COMPUTER (PC)

Small size, low cost, smaller memory and computing power of microprocessors and micro computers have resulted in development of portable personal computer (PC) which have commercialised video games and word processing. They have accelerated the "distributed processing trend" and are extensively used for automation of data processing in offices, factories and homes. Broadly speaking, a PC is a small general purpose processing system that can perform wide variety of tasks as per users instructions. These are designed to be used by one person at a time i.e. single user environments, though PCs with multi-terminals also have been developed. Their use can greatly enhance the decision making process of top executives by providing right Management Information Systems (MIS) to them.

A number of factors determine the performance characteristics of a PC i.e. the type of microprocessor used, clock speed of CPU and primary storage capacity available. A PC with 32 bit microprocessor chip will be faster than 16 bit microprocessor chip which in turn will be faster than 8 bit system. The clock speed of the chip is measured in megahertz (MHZ) that directly affects the speed with which an instruction is executed. The more the clock speed, the faster would be the PC. Also, if primary storage capacity is more, there would be fewer time consuming disk operations.

So far all PCs are being imported. However, very soon India's first PC will be in the market ushering us in dramatic changes in our living and working ethos. It is learnt that indigenous PC being developed by Semi Conductor Complex, Chandigarh will have a single floppy and 128k memory. It will work on a black and white television set and will be priced around Rs. ten thousand only i.e. less than a colour television set. There is growing emphasis on sophisticated software and graphics and development of compatibility in Application Software and development of Operating Systems. Knowledge Systems with artificial intelligence capable of giving expert advice or analyzing complex information within particular field are likely to be commercially available soon. There is also growing interest in the problem of computer safety. This aspect is very vital in military usage of computers.

UTILITY OF PC IN A UNIT

PC has immense potential usage in a unit which can be harnessed in a big way for computerising a large variety of operational and logistical data called applications that will enhance combat and administrative effectiveness of the unit, thus reducing files, office space, typing and filing effort and manpower presently required to do all this drudgery. Major unit applications which can run successfully on a PC are given below:-

- (a) Command, control, communication and intelligence system (C³I).
- (b) War gaming to test tactical concept and to train and test sub unit commanders.
- (c) To test effectiveness of a weapon system.
- (d) Training and development programming.
- (e) Fire planning.
- (f) Critical deficiencies in man power, and controlled stores and maintenance of long rolls, sheet rolls and field service documents.
- (g) Vehicles, FOL, Ration, Clothing, Furniture state and their stock taking and inventory control.
- (h) Maintenance of imprest, public, regimental and canteen accounts.
- (j) Preparation of acquittance rolls and computing pay and allowances including TA/DA bills i.e salary administration.
- (k) Defence bricks, load tables and move schedules of men and materials.
- (i) Analysis of works procedures and planning data.
- (m) Performance appraisal including pending disciplinary cases, court of inquiry or boards of officers.
- (n) Reports and returns and compilation of planning data and schedules.
- (o) Planning of war wastage rates in men and materials.
- (p) Hospital admission, discharge, diagnosis, treatment, medicines inventory control and recategorisation of patients.

RESISTANCE/HESITANCY TO PERSONAL COMPUTERS

We, in the armed forces, have by and large, been left untouched by the PC Wave. This is probably due to lack of awareness, resources, knowledge and resistance to change. An average non-technical officer thinks of com-

puter as a complex electronic device to operate needing some kind of specialist knowledge which the elite in corps of signals perhaps only possess. We feel like M Meacham who had said "computers are fantastic; in a few minutes they can make a mistake so great that it would take many many men many months to equal it" which is a fallacy. There is also growing misconception that if quality of data fed in the computer is not updated, it deteriorates, resulting in familiar phenomenon of GIGO (Garbage in Garbage out) and that "the men have become the tools of their tools", i.e. the computers. There also exists wrong notion that only big computers with associated paraphernalia are necessary evil perhaps in higher headquarters and all that a good unit commander needs is a live wire Adjutant, Quartermaster, Subedar Major and a Head Clerk to see through his operational, administrative and office management needs. Again, many of us due to lack of awareness are frightened by the computers. We fear that our command function and authority will be greatly reduced and diluted by excessive use of the personal computers. This trend in non-technical officers conglomerates adding pressures on typical regimental and staff officers and the office staff. This is far from truth and reinforces the fact that an officer's career must be a life time of learning new processes and techniques to optimize his combat effectiveness. Progress always means change but change does not always mean progress. We must progress with change to meet our changing responsibilities to meet new challenges in our operational and administrative readiness. Our quest for computerisation to enhance our combat effectiveness must clearly grow as evident by veritable flood of its knowledge on how, why, where and when of management of our combat power through computerisation or else we will become obsolete and simply become incapable to adjust to rapidly changing combat stress. If we do not adjust to rapid technological change, we will soon simply become uneducated for our jobs by standing still. If one visits editorial office of Living Media (India Today Magazine) one finds no papers, typewriters or files. from customer's subscription to collection of latest events from its correspondents all over the world, everything is computerised and handled by a handful professionals. One would need colossal effort in men and materials if publication of 'India Today' was done by the outdated techniques of management that we follow in the armed forces. Customers service and banking facilities in Bank of America branch in New Delhi vis-a-vis any of our State Bank of India branches, where trade unions and other internal and external pressures and attitudinal problem have kept computerisation at bay, speak in favour of installation of personal computers in the banks. It has thus become apparent that updating the work technology in all spheres of activity in our systems including armed forces is long over due and without it the organisational degeneration cannot be stemmed.

SELECTION OF PC AND TRAINING NEEDS

Selection of PCs for unit commanders will have to be worked out carefully. It will be based on such factors like memory requirements, cost effectiveness, robustness, security devices, after sales service and compatibility and capability of system upgradation with existing and future acquisitions. Standard software packages useful to unit commanders will also have to be purchased along with PCs. We must give a thought on training unit commanders and potential unit commanders on PCs. It takes about 8 weeks for an individual to get used to computer programming if he already knows mathematics upto 10th standard. Initially computer programming courses for unit commanders can be conducted at College of Combat, MCME and MCTE, along with installation of PCs in their units so that unit commanders trained on PCs can use their newly acquired knowledge. As the PC wave catches on, such courses can be even run at Divisional and command levels. The approach will help in building and training large number of computer professionals and computerisation on large number of applications on the PCs as discussed earlier and Data Base Management systems (DBMS) will help in transferring existing operational and administrative documentation on data base. Data Base will have following advantages for unit commanders:-

- (a) Information supplied will be more valuable because it will be based on a comprehensive collection of data instead of existing files which contain the data for one application only.
- (b) Apart from reports and returns it will be possible to meet specific requirements of the users.
- (c) Duplication of data will be minimised and errors due to discrepancies between two files will be eliminated.
- (d) Amount of input preparation needed will be minimised by the single input system.
- (e) Great deal of timings and cross references done presently will be saved as DBMS will handle construction and processing of files and retrieval of data for use.
- (f) It will help in development of integrated system.
- (g) It will protect data against unauthorised access.
- (h) It will safeguard data against corruption.
- (j) It will provide recovery and restart facilities in case of hardware or software failure.

CONCLUSION

An effort has been made on needs of computerisation in the armed forces at grass root levels by authorising personal computers at unit level. The real improvement in quality of work and enhancement of combat effectiveness will depend on how fast we change with times. We in the armed forces are still not at the start point whereas rest are far ahead in the race for computerisation. Clive Sinclair, the designer of the first Pocket Calculator has said "The 5th generation of Computer is the greatest battle ground of the Century. It will determine a new balance of power in the world. Just as the West found itself oil dependent on Middle East in the 1970s, it will find itself knowledge dependent on the Japanese in the 1990s where knowledge really will be power". In Western Countries computer education has been introduced at school level and in UK every primary school can boast of having a micro computer. It is sad indeed that our majority of the schools do not have basic teaching aids like black boards and charts. I, as an officer with 25 years of service had first exposure to basic computer knowledge in my MBA Course last year which should actually form part of secondary school curriculum. Of late, Government of India plans to cover 2-5 lakh schools with coomputers by 1990 with budgetry provision of Rs. three hundred crores. It is a modest beginning and it's time we took the computers at unit level as well to enhance combat effectiveness of unit commanders.



BALLAD OF MECHANISED REGIMENT

The Mechanised Infantry though fairly new
Is a mighty mobile machine,
From old battalions just a few
It has grown beyond all dreams.

A creation of General K Sunderji,
The Regiment surpasses all others,
Its growth surprises our adversary,
Whose Pugnacious designs it deters.

Amongst its many veteran units
Are 1 MADRAS of Kalidhar fame;
Royal JAT of Festubert grit
And 1/8 GR the legendary name,

The highly decorated 1 SIKH is there
So is great KUMAON (GWALIOR),
1 GARHWAL did Gadra clear
1 DOGRA did Asul Uttar honour.

7 PUNJAB which fought at Dograi
Is there with Chad Bet 7 GRENADIERS,
The MARATHA (BARODA) excelled at Bajai
As 18 RAJ RIF at Basantar,

Joined 16 MAHAR the PARA spartan
As did 18 RAJPUT of Nathula.
16 JAK RIF, last of the veterans
Was followed by 9 units secular.

The 23 received new colours
By Sri Venkatraman our President Supreme,
Feb 88 saw history at Nagar,
A new Guinness record was seen.

From BTR, SCOT, and TOPAS
Which covered the initial miles,
Now, BMP Is and IIs it has
With Malutka and concorse missiles.

Recce and Support Battalions,
Are growing from day to day,
These 'Eyes'cum 'Ears'determine
Our adversary's moves and ways.

Latest to join are the GUARDS legendary
MECH INF is a family of brothers.
General Nambiar now steers devotedly,
Adding laurels anew with feathers.

From Ladakh's frost to sikkim across
MECH INF has operated with pride.
In amphibious ops it has experience gross,
Through Andaman and Lanka's tides.

A harmonious blend of class and creed,
The Regiment has guts untried.
Its potential and grit is great indeed
As the nation looks on with pride.

--Major Anil Shorey, The Punjab Regiment

The Psychosis of Rank

BRIG N B GRANT AVSM (RETD)

Any man can always enhance his rank and status; but no amount of rank and status can enhance the man.

A recent news report claimed that, there are now four Directors General of Police in Uttar Pradesh. One is incharge of Civil Defence, another of Prosecution, the third of Housing, and the fourth presides over the 'vacuum at the top', whatever that means. Whether any one is in overall charge of the State's police force was not specified. Some months earlier, it was reported that, Bihar has the dubious distinction of having 14 Inspectors General of Police. In another context, a report mentioned that Tamil Nadu has four officers holding the designation of Chief Secretary. To cap it all, the army, not willing to be left out of the rank race, till very recently had three Vice-Chiefs of the Army Staff, which we understand would enhance their sitting order of precedence at the Republic Day parade. If Parkinson's Law were to operate in our various civil and military cadre reviews, it would state that 'rank expands so as to fill the voids of quality and morals of its employees'.

The rationale behind the burgeoning of administrative heads has never been explained. Perhaps it is because, unlike politicians who are seemingly unaffected by the constant rise in the cost of living, servants of the state where incomes are fixed by rigid salary structures, find that the only escape route lies in boosting their cadres, so as to have access to higher pay and allowances.

Whatever the reason may be in the civil organisations for such inflated ranks, military functions are quite distinct from those performed by other agencies of government. If the military was left to itself to evolve its hierarchies strictly on the basis of organisational and operational requirements, a more prosaic framework would emerge; but because it is part of the bigger hierarchy of government, it is influenced by certain extraneous considerations. One of these is the working need to find equations with the civil administrations; but this, as the army has perhaps now discovered, is a hopeless and sterile contest. For example, as far as status is concerned, whereas military ranks kept increasing in the same appointment, the corresponding rank of the civilian counterpart stayed at the same level, but his pay continued to rise substantially, which in the army only does so with an increase in rank. Thus whereas before, an Under-Secretary would address a Major as

'Sir', today he would not bother to stand up even when a Major-General entered his room. Thus unknowingly, the proliferation in army ranks, has only led to the further lowering of the status of the military vis-a-vis the civilian bureaucracy.

For more than a decade now, the government has been apprehensive regarding the falling quality of officer in-take into the armed forces, and the gradual deterioration in the motivation of the Service Officer. This has reflected in the increase of disciplinary cases, even amongst senior ranks, the filing of writ petitions in civil courts, the opting for softer jobs in peace stations, and reluctance to carry out difficult but normal tasks, leave alone those beyond the call of duty. The government tried to remedy this by carrying out two cadre reviews. The basic consideration was, to create more higher ranks within the existing establishments, and by giving concessions like free rations to the officer (not to his family) in peace stations, increase in the use of free postal envelopes in field areas, authorise more time-scale promotions to the rank of Lt-colonel, and an increase in the presentation of medals on republic day. On the face of it, all this gave the appearance of not only raising the soldier's emoluments, but also giving him parity of status with the civil services. It was made to believe that the army never had it so good, and the ever credulous soldier took the bait, hook, line and sinker. A detached study would however reveal that, these concessions only gave marginal fringe benefits. On the other hand, its effect on the efficiency of the service, may even prove to be rather damaging, by allowing mediocrity to creep in the realm of professionalism in the senior ranks.

To begin with, with the proliferation of ranks, unwittingly, the military has demonstrated the efficacy of the Peter Principle, by increasing the statistical chances of a greater number of officers now reaching their level of incompetence. An incompetent, or a not fully employed incumbent, being incapable of justifying his present job, takes undue interest in his previous job, to the annoyance of his subordinate. The military has today defacto attempted to flatten the pyramidal organisation, albeit more in default than in a planned manner, and has landed itself in a situation where, to take the Air Force as an example, Group Captains are commanding Squadrons, Air Vice Marshals are commanding stations, and even Air Marshals want to run the flight commander's office.

Again, with the decision to upgrade unit command to full Colonel, now implies that entry to the general cadre, such as it remains, will be in the rank of Brigadier. If an officer, once so promoted, is a success, all is well. If, however, he is not, he will have to be carried in that rank regardless of performance till retirement. The cushion of time, available earlier, for assessing

their performance in the rank of Colonel, will now be lost. Besides this, in many regiments there will now be two Lt-Colonels and two Subedar Majors. These two ranks cannot be driven like a coach and horse, as such, accountability will take a back seat. The army justification, if any, for tinkering with such time and battle tested appointments, is beyond comprehension. I guess the Navy will get over the problem by simply stating that, if it cannot provide more ships for its increased number of admirals, it can always build more cabins in the existing vessels for accommodating them.

At the higher levels there are now six different slots carrying the rank of Lt Generals, with the Army Commanders at the top, followed by Corps-Commanders and PSOs at Army HQ, with the Director Generals, Command Chiefs of Staff and Commandants of training establishments lower down. The criteria for promotion to Army Commander has necessarily to be stringent; it must include a successful spell as a Corps Commander. Since the number of corps commands is limited, all aspirants to army command, and these will now be far too many, can at best hope to serve for a year or 18 months, in the intermediate assignments carrying the same rank. These brief tenures will do no justice either to the appointments, or to the individuals.

It is the professionals quality of the technical Services however, that will suffer most in this rank syndrome. Even with the ushering in of the scientific age of Rajiv Gandhi's 21st century, in our army, there still seems to be a belief that, the environment under which the technical officer works, is not conducive to leadership development fit for higher command. The result is that, some highly qualified officers of the technical arms, are opting out for appointments in the General Staff cadre, for the sake of getting higher ranks denied to them in their own technical fields. In this respect, the recent policy decision taken by the Army Medical Corps, forcing expert medical specialists to become generalists for getting higher ranks, will result in the Medical Corps losing first-rate professional specialists, and in the bargain getting indifferent administration, more interested in the advancement of their ranks, than in the enhancement of their profession.

It could be argued that, mediocrity in a higher rank shouldn't cause undue qualms to the Services, since it is tolerated with equanimity elsewhere. Other walks of life, however, do not carry direct responsibility for the lives of men; the military on the other hand has to be very circumspect in the choice of its leaders. For soldiers, the outcome of wars never was, and never will be, determined by the quantum of brass worn on its shoulders. What the soldier has been clamouring for, and is still doing so now, is for a substantial increase in his total emoluments irrespective of rank, so as to be able to compete with the rest of society for the same kind of quality of life, which today he cannot

do so on his military pay. Although the new Army Pay Commission is now venturing to do just that, however, the damage may have already been done. Besides, even though many of the recommendations made therein have since been accepted by the government, what is the guarantee, that if the Police and the IAS increase their rank structures still further, the Army would not also want to do the same, to get even. Rank consciousness in the army has reached such a stage that, rows of seats are reserved rank-wise for officers, even in cinemas and other places of social intercourse, a thing which was never heard of in the past.

Perhaps we can best conclude this by comparing it with the proverbial stanza by James Reeves, of how, 'for the want of a nail the battle was lost'. Let it never be said of the Indian army that, for the demand of a rank, the pay was lost; for the want of a pay, the status was lost; for the demand of a status, the profession was lost; for the want of a profession, the war was lost; and all for the demand of a rank.

The Profile of a Commanding Officer

BRIG CHANDRA B KHANDURI

It was sometimes in June 1960 when I saw him as my Commanding Officer with bristling moustaches, a receded hairline, a large spectacles, brisk in walk and talk, continuously smoking his cigarettes, half of which he would throw away in quick succession. As a subaltern I was watching him, as indeed, he was.

I was to see more of S S Maitra, my first CO in peace, and throughout the actions that we fought in the Congo (Zaire). In fact, during this period, he and I got to know each other from close quarters, more closer than any one else could. I saw him drive his huge UN car through weird myriad situations, dangerous enough to keep men of his rank move either with big convoy of armoured cars, or have least exposures - as indeed, some of them did.

SS had come to raise and command 3/1 GR from his old Battalion and in the bargain had inherited a hard bunch of the 'toughies' of the then twenty three Gorkha Battalions. He set about raising not only the Battalion, its structure but its spirits: the spirit of the 'bravest of the braves' the indomitable Johnny spirit. The 'unwanted' prospered and made the backbone of this Battalion through thick and thin, trials and tribulations which were to come soon.

Double Nine as 99 Mtn Bde Gp was known, was to fly to the Civil War tormented, strife torn Belgian Congo in March 1961. Being a new battalion which was yet to complete its raisings, Army Headquarters had planned to replace 3/1 GR by an older battalion. SS got to know of it and dashed to seek an interview with the CIGS. Well, we were allowed to move with the Double Nine in April 1961, spearheading the fly-in and later advance of the Brigade in all its activities in the Congo.

A BRUSH WITH FM AYUB KHAN

The flyers in those American Globe Masters gave us a halt at Karachi, Aden and Khartoum before we landed at Leopoldville (Kinshasha). Having taken off from Palam, Delhi around 1030 that morning of April 1961 two hours later when we hit the tarmac at Karachi it was fairly hot. The Embassy Staff had laid on cold drinks and snacks for us. As we marched towards the lounge I was to see a memorable thing happen. Field Marshal Ayub Khan had just arrived at the VIP lounge and having seen the Gorkhas of Indian Army happily looking at ease in his Pakistan, the old soldier's feeling stirred. An aide-de-camp came running towards us asking for the senior most

amongst us. SS was busy talking with our Attache. But before any thing could happen, we found the Field Marshal move about, shake hands with some of us. SS had arrived by now. He embraced SS, 'for old times sake'. "Good hunting and a God bless", said the impressive Field Marshal as he shook hands with SS. I understand SS and Ayub Khan remained great friends thereafter.

INTO TSHOMBE'S LAND

After a brief rest and refit at Leopoldville we moved to Kamina, a one time NATO Base, but a Gendarmerie stronghold, which, before the aircraft took off, we were told would be blocked by them (the Gendarmerie). Moise Tshombe, the rich secessionist leader's orders were not to let the Indians land in Katanga. SS moved in the first aircraft, had some machineguns mounted on the doors; just in case a forced landing became necessary. Fortunately, the Katangaans were kept at bay by the Tunisians and the Irish who were then manning the airfield defences.

(At Kamina, I recall we had HC Sarin, the Defence Secretary and Gen Wadalia, the DCOAS, come over to us.)

THE BLOOD BROTHER AND MERCENARIES

A local tribal Chief Kawanga was keen to call on the Battalion, the Gorkhas, as he was calling us. In a great demonstration of blood brotherliness' and fraternity, SS not only gave him a guard of honour but a blood smeared khukri, the blood having been freshly cut from his own palm of the left hand. The tribal chief was moved and he conveyed his deep appreciation to the blood brothers - the Gorkhas, the Indians.

We were soon moving into the ferociously tribal area of Menono where the tribal warfare had stopped the functioning of the steel and copper mines.

Mercenaries made up Tshombe's 'force de frappe', the 'Group Mobile' who were prepared to fight till the end. Having been demobilised from the French Foreign Legions, the US OAS, the British colonial armies, the Cubans, Italians and every man who was prepared to fight for a chubby sum were part of the mercenaries who trained and led Moise Tshombe's Gendarmerie. A fine force by all reckonings, well motivated, equipped with the NATO weapons, mobile and hard hitting. Some time in our lighter moods after a few Simbas (the Congolese beer) we all thought of joining them.

The Indian troops particularly the Gorkhas, with their khukris, poker faces, and the highest rate of accidents on the high speed roads of Congo, were also the target of Tshombe's psy war being branded as 'Mercenaries'.

Posts sprung up all around Manono, Albertville (on lake Tanganyika);

we escorted trains to Kivu, the land of dwarf Congolese and of massive bananas each weighing more than 2 to 3 kgs. "Op Scramble Eggs" was planned to round up the mercenaries all over Katanga. The evening before SS took us out in games dress on the plea of having a match with the mercenaries where we had a cup of tea and a few glasses of Simba in the mess. And then finally at 0400 hours, the Hotel Hour, the following morning we swooped around and nabbed them. Having interrogated them, we put them on planes to be deported. Alas, that they returned soon is a different story.

THE FATALIST

By the beginning of September 1961, we were in Elisabethville having detached a company group under Thapa for Manono. In just two weeks Tshombe decided to strike in retaliation at the UN effort to control his communication centres: the palace, Post Office, radio station. It is at this time SS was most mobile, coming under fire, often returning in his bulletholed vehicles. Mission was always the same; to meet the boys; help the civilians; help anyone including Gendarmerie, if they asked for it. One afternoon in the UN HQ building known as Castle, a pair of Dorniers (which made the entire Katangese Air Force) decided to catch everybody in the same basket when an operational conference was in progress. While all the brass left the conference most unceremoniously and dashed headlong into nearby trenches already full with men including Katangese women, he just stood outside with his cigarette in his mouth and a hand at his pistol grip. When the bombs had been discharged, fortunately in the rear of the building and the perspiring seniority limped back to their tables, SS was seen looking at his right palm. "There is no chance whatsoever for the Katangese blokes to get me..... No chance.....". He was heard saying. The others couldn't look him in the face thereafter.

As days passed and a cease fire came about at the request of the UN, where Katangese Gandarmerie had definitely won hands down, it appeared a second and bigger war was round the corner. It came about in December 1961.

BATTLE AND MORE THAN THAT

On 5 December 61, the fateful day when the Gendarmerie had blocked all roads leading to the UN Headquarters in an attempt to stifle us into submission and force UN forces' final abandonment of Katanga, we marched with Govind Sharma's company to clear the road block and Salaria's adhoc platoon from the Swedish Refugee Camp came to clear yet another road block from the airport. Salaria made his famous surge of the Gorkha platoon and laid his life in supreme sacrifice while Govind Sharma with a troop of

Irish Armoured Cars stormed the road block. Both succeeded. SS was there, I with him as his I.O. Both of us lobbed more grenades than any one else had done in the operation. The operations continued on and on.

The battle carried on for almost 15 days. During this period, I remember a company Commander telling him on radio that the road his company was to move, was being shelled by the Gendarmerie. "What do you expect the enemy to do"? He retorted and snubbed him further "give you 'laddos'.... Make a move....you have just 30 minutes to reach this location....". On another occasion in September 1961 when Mangla's Company suffered cataclysmic consequences in its aborted effort to link up with the Irish garrison at Jadotville surrounded by the Gendarmerie, he had shown his sympathy and understanding. The heroic and valiant actions of the boys who sacrificed their lives or who performed exceedingly well, nevertheless, could not go unrewarded.

As the Gendarmerie were routed, their strongholds captured by the UN Forces, and they retreated into North Rhodesia and even Angola, it was certain that Tshombe would come around for a cease fire and reconciliation. But the whole lot of humanity, the Congolese and the Whites and the troops of the peace keeping force suffered. It was time for SS to embark upon an unparallel programme of reconciliation and of rapprochement. No better eulogy could have been rendered to him than what I read through.

OTHERS WHO SAW HIM AT CLOSE QUARTERS

Arthur Bryant, the famous historian and Novelist writing in the Illustrated London News of 20 January 62: ".....And then out of the tragedy and destruction of what seemed an unnecessary war, came the episode of Col Maitra and the spectacle of a good man, trained in great tradition, can effect. In the first stage of the Katanga war last September the Gorkhas - those superb and battle ruthless fighting men -were said to be hated of all the United Nations' - troops in the province. In the second stage of war in December they became the least hated and most trusted. And this, we are told, on first hand authority, due to efforts of Col Maitra.

"A tough professional soldier looking like the traditional Col Blimp with bristling moustache and a buff manner, he set out single handed to alter the Gorkha image here, and succeeded. On the first day of December fighting he went in with his men to clear a Katangan strong point with bayonets and Khukris. And after that he acted more like a Red Cross man than a soldier.

"During driving his car under fire from both sides, he continually toured civilian areas, rescuing non-combatants, guiding them to safety and even returning them, at the risk of his own life, to save their treasured possessions.

I suspect that Col Maitra by his courage and human conduct has done more to make the ideals of the UN honoured and accepted in Katanga than all the resolutions of the General Assembly or the paper directives of its administrators. For, he has shown that those ideals rest, as all ideals to be acceptable, must rest, on the basis of human virtue - in this case the virtue of soldier, who has learnt the lesson that, tough soldier's duty is, at the risk of his own life, "to improve the way of peace and also to spare the subjected and battledown the proud".

Maj Gen S Collins Powell, Chief of Staff Irish Army had this to Say: "I note with satisfaction the laudatory reference to your own activities during the recent crisis in Elisabethville".

Mr Brain Urqhart, UN Representative in the Congo, the man who carried the whole political responsibility of establishing peace in that young nation had opined:

"Lt Col SS Maitra had become a household name. During the fighting, the Battalion showed highest discipline and courage. But even during the fighting the Battalion began to show another quality which is of capital importance in UN Operation... The Gorkhas under leadership of their Colonel rescued and helped very many civilians, resultantly the Gorkhas have become well known and admired even by those who were bitterly opposed to the UN".

And again:

"When the UN was compelled to fight the Gorkhas amply demonstrated the Justness of their reputation as the "bravest of the brave"... The Battalion under Maitra's leadership gave an example of military virtue and discipline, tempered with mercy and imagination which will long be remembered in the UN as well as by those who opposed it in Katanga".

SS found admirers outside too. King Gustaf received him in Stockholm in February 62, when he went on holiday, to Europe. Likewise, he was met by Gen Lemnitzer, Chief of the NATO, the Irish PM and several other friends and admirers on the Continent of Europe.

Col Maitra was invited to deliver a lecture in the Carnegie Endowment for International Peace, New York in March 62. Unfortunately, it did not become possible.

ZENITH

The Congo tenure was tremendous, tumultuous, a high morale raiser and a high water mark of achievement for Col Maitra. We were to fly back

via Elisabethville-Dar-e-Salam. On the last day of April 1962 on one afternoon as the plane loads were being further moved into the holds of the ship "USS Blatchford" and there was nothing more than to read a good book, he put aside Liddell Hart's copy of the "Reputations" and told me how he longed to have a quiet time in a small hut in the Garhwal Himalayas, read and write, rather 'waste a life's time'. And then he hoped the boys from the Battalion would join him in his retreat, as also his friends from all over the world. Laughing when he said that included Moise Tshombe from Katanga, I knew it was far from true. He was a man of action, of combat, a soldier of fortune, a 'Karmyogi' and to expect from this man what distinctly was a 'somnolent reprieve' was not in accord with his psyche. I just smiled as a good subordinate.

Back home in India he was on staff, later as Commandant of the Jungle Warfare School, and then Commanding a Brigade in Sikkim. 'Posture of India's Defence' appeared in the 'Life Magazine' during his time.

Then came the promotion and another opportunity to raise, this time, a Division: the 'Bison' Division. Good opportunity for a soldier! In his Battalion while raising he had learnt to eat from Mess tins but left it as one of the richest battalions. That was to happen to his Division too, though on a smaller scale. What, however, happened on an unprecedented scale was the fortification of soldierly professionalism, and building up of solid foundation through professional-oriented activities. The 'Bison' learnt to watch carefully before charging at its objective.

THE SHORT SHRIFT

The untimely death of Maj Gen SS Maitra as Chief of Staff of a Corps in 1969 came as a great shock and an irreparable loss to his family, friends and the Gorkhas all over the world. The tragedy struck the family too harsh. His only son died a few years later; and his wife is almost paralysed. She accepts this as an actuality of life, bravely, most heroically than most people I have come across. Still handsome she has braved the tragedy with fortitude and dignity. She has a frail frame now but her spirits are of tungsten.

THE INEVITABLE IMPRESSIONS

When I told her some months back that I wanted to write on the late General, she thanked me and said at the same time that SS was not an ordinary man and whether I would be able to do justice to his life and his time. I said I would attempt but the definitives of his biography, nonetheless, would be only those parts which I saw and knew of him.

SS was known as 'Gurung' in his previous Regiment for his total absorp-

tion with and blending in the Gorkha attributes. Having had some experience with some of the Indian troops during World War II, he could see Gorkha and the soldiery as a total amalgam of a man with a noble profession, the profession of Arms. Not that he pampered them in anyway but he did develop that solidly soft corner for them as expected of a regimental officer. He hated, if anything, what he called the 'sand model eloquence without relevance to ground situation or reality', the 'hip-swinging Gentleman', a phrase which had cost him his job more than once - and, the 'scallywags' who fail in their duties. That apart, magnanimity remained his hallmark.

One of the most hardworking officers, I saw him leave his bed even during transit at the British Transit Camp Aden at 4 AM (when we had slept at One in the morning), clear his official and private mail before reveille. There was nothing called 'pending' in his dictionary. He took quick decisions and then stuck to them, however, harsh the response or the criticism may have been. There was, I remember, a case of some ammunition accounting, which I had drawn from an Ordnance Depot for the Brigade Group in Congo. The ASC officer who took over ammunition from me had a noose round my neck by refusing to sign the receipts. The result: I was to explain for Rs 32.5 crores worth of ammunition or face an enquiry. SS came to my rescue when he wrote to the authorities giving me a clean chit.

SS was a man of strong likes and dislikes, though he did not allow it to influence his judgements or decisions. He could be sentimental, if he wanted to mix it with his method of command as an instrument of command.

He was a man of great understanding of the United Nations role and goals. There were few in the UN who compared with him, at least in the military field or, who combined military virtues with diplomatic or psychological operations so dextrously as he did. There are just a few SSs - a handful only, who under the cross fire could have rescued civilians, whose attitude was anything but friendly, and yet 'moral obligations' as he called them, motivated him to undertake mercy missions with missionary zeal. So, when Arthur Bryant felt that SS's 'courage and human conduct had done more honour to UN than any other efforts', he was totally right.

His unfortunate and untimely death, has been a traumatic experience for all of us who had come to acknowledge his leadership and psychic superiority. Perhaps, he knew his death was to be premature and his suspicion in 'grooves and cuts' on his palms was, I thought, obsessive. He often told me of the 'trap in his early fifties', which, if he crossed, would mean a 'rebirth'. Like Shankar, the great Indian philosopher or Vivekanand, he appeared sure of an early departure. He exposures in the proximity of the Dornier bombs in the

Castle in Elizabethville on that afternoon and then later those prophetic words were perhaps a truism.

In his life's crusade, SS's main weapons remained: his convictions; his courage to strive till the end of the Globe; and, his compassion which was ever pervading. In retrospect, he made a bee-line for these and achieved almost the ultimate goals set for himself.

To Our Members

The Annual Subscription for membership of the USI falls due in January each year. And therefore, this is to remind all our members to send their Membership subscriptions for 1989 so as to reach us by 15th February, 1989. This would ensure the despatch of the first issue of the USI Journal for 1989.

The Membership Fees and Subscription Rates have been recently revised by the Council. These are as follows:-

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	Admission Fee (Old Rates)	Member -ship Fee (Old Rates)	Admission Fee (Revised Rates)	Member -ship Fee (Revised Rates)
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Administration of Justice in the Army

BRIG N K MAYNE AVSM

INTRODUCTION

On joining the Army, a new entrant, be an officer or other rank, swears away a number of basic rights which his civilian counterparts take for granted. Because the Administration takes away these basic rights, it provides for a number of safety valves to ensure that justice is available to all, without their having to agitate for it. However, of late, there is a growing tendency amongst service personnel to approach High Courts and the Supreme Court to appeal against the decisions of the Administration. In most cases the Courts have decided in their favour, some times because of the strength of the case and some times because of poor performance of the Government Counsel. The pertinent point, which must be taken note of is that this tendency to go to the courts is a 'loud protest' by officers and men of the Army against the administration of justice as it is practised these days. Even if a single case is won on merits by such a plaintiff against the Army in the courts, it should be a matter of serious concern to all of us because it reflects adversely on the dispensation of justice in the Army. It is axiomatic to review all administrative and judicial decisions so that a person, who has sworn away his right of protest in favour of a disciplined life, is granted full justice in return as a matter of normal course.

In this article I propose to identify the main areas of protest; the present system of checks and balances to ensure justice in such areas; and to suggest improvements.

MAIN AREAS OF PROTEST

By and large the officers and men of the Army have been going to the courts in numbers which are increasing slowly but noticeably for the following reasons:-

- (a) Sentences awarded by various courts martial.
- (b) Denial of promotions.

In addition to the above, a very large number of officers, and in more and more cases, JCOs and Other Ranks also, are appealing against the Administration's decisions by putting up statutory and non-statutory complaints. This number is increasing alarmingly. These complaints mostly cover

protests against remarks made in Annual Confidential Reports; denial of promotions; loss of chances for promotion and competitive examinations; loss of seniority due to inability to pass promotion examinations; unpopular postings issued by the MS Branch and 'harassment' by senior officers.

CHECKS AND BALANCES IN FORCE TO ENSURE FULL JUSTICE

DISCIPLINARY CASES

Before a disciplinary case is tried summarily or by a court martial the procedures laid down require the Administration to investigate the case thoroughly. This is usually done by holding a court of inquiry and if there is a prima facie case, the accused is identified and served with a charge sheet to help him to prepare his case and thereafter a summary of evidence is recorded. It is now upto the Commanding Officer to deal with the case summarily himself or put it up to the formation commander to do so; or to apply for a suitable kind of court martial according to the Army Act. Before arriving at such a decision, the Judge Advocate General's (JAG's) department provides pre-trial legal advice to the Administration after carefully going through the evidence recorded. During the court martial, an officer of the JAG's department advises the court on matters of law, and helps the members to arrive at a proper decision, both while determining the culpability or otherwise of the accused and the punishment. Thereafter, the proceedings of the court martial, conducted according to the provisions of the Indian Evidence Act and the Criminal Procedure Code, are confirmed by the competent authority after the JAG's department has again studied the proceedings in great detail to ensure justice. It is also pertinent to note here that, whether the accused asks for it or not, the court recommends a plea of mercy even when it is passing sentence. The case is further reviewed after confirmation to ensure that proper justice has been done.

The above system should appear to be fool proof to any lay reader. Under normal circumstances it should be fool proof. Yet it is a matter of concern that despite all these efforts, sentences awarded by courts martial, when appealed against in the High Courts and in the Supreme Court, are being increasingly set aside. I feel that the root cause of the malaise lies in the following:-

- (a) The number of JAG's department officers is infinitesimally small and they have an ever increasing load of disciplinary cases to deal with because of the enormous rise in the strength of the Army.
- (b) The pre-trial advice, during trial supervision, and the post trial review of cases is being done by the same set of Officers, thereby losing ob-

jectivity.

As far as the strength and status of the department is concerned, it is interesting to note that the JAG was a Brigadier in 1923 and he was still a Brigadier till 1982. Legally qualified officers of this department are not available below Corps level for tendering legal advice to the Commanders. At Corps level one AJAG (Lt Col) with a clerk or two handles cases from a military population of between eighty thousand to one hundred thousand troops. When he goes on leave this load is transferred to the AJAG of another Corps in addition to his own duties or it is passed on to the DJAG at Command Headquarters, where he has a small group of about half a dozen officers at his disposal for carrying out multifarious legal duties, pertaining to a population of about 250,000 odd troops.

Brigade and Divisional Commanders and their equivalents in static formations are authorised a warrant to order General and District Courts Martial and to award summary punishments to those below the rank of Major. However, the Army has not provided any Officers on their staff who can provide expert legal advice to them. On the other hand it is interesting to note that the same Commanders have been provided with Officers from the Army Educational Corps on their staff. These officers neither conduct classes nor is their advice on education of troops of any value to a Commander. These AEC Officers therefore, spend their time mostly in running the formation libraries, supervising the conduct of various tests of Other Ranks, and being incharge of sports and variety show competitions. None of these activities requires an officer, who is usually a post graduate, B Ed. However, these officers and then AEC JCOs/OR do get sufficient time to further educate themselves. Is it not ironic that we have on the staff of a formation commander, an AEC Officer who keeps himself occupied by doing almost everything but educating the troops, but for most important task of tendering legal advice for proper use of the vast legal powers vested in the Commanders, NO officer is available? What compounds the problem is that there is no organised teaching of law for officers except a Command Law Course run for a few junior officers whenever the hard pressed JAG department officers can spare some time. The officers' expertise in law is thus mostly gained by private study carried out when preparing for examinations upto Major's level. Some practical on-the-job experience which officers may have acquired in addition to this private study for the examinations is all that they know of Law. For most Officers, the Manual of Indian Military Law is a mystery. In short, expert advice is at present available in a sphere (Education) where a Formation Commander does not require it, but he is not provided with expert advice where it is urgently required (Law). This needs to be put right soonest, if our system is not to fall into disrepute by its decisions being repeatedly set

aside by the High Courts and the Supreme Court.

In view of the above, there is a case for an increase in the establishments in the JAG department so that officers can be posted on the staff of all warrant holders. If for reasons of man power adjustment, it is necessary to find matching off sets, the AEC officer on the staff of formation Commanders can be dropped and a JAG department officer posted. This is a whole time job and must not be linked with that of Staff Capt (A) of DAAG at formation Headquarters. These officers are already fully occupied. Further, a separate Branch of JAG department should process and review all legal awards made by officers in Command of troops and by the Courts Martial. For this task additional staff should be authorised at Command and Army Headquarters.

PROMOTION

All aspirants for promotion to NCO and JCO ranks are required to pass examinations in educational and Map Reading standards before being eligible to attend a promotion cadre course, after successfully completing which they are placed on a panel of those fit for promotion. The educational standards required for promotion are in Hindi. The minimum Educational standards for entry in the service require that a recruit should be literate in his mother tongue. Therefore, in a mixed class composition Regiment or Corps, any one whose mother tongue is Hindi is at an automatic advantage over those who do not know Hindi. In a one class Regiment, every one is at par. Since there is no fixed period during which Other Ranks can pass their educational examinations without loss of seniority, every time an OR does not qualify in the requisite educational examination in Hindi, he automatically stands a more than 70% chance of being superseded for promotion because, as mentioned earlier, promotion is awarded in order of seniority to only those who have qualified in education, Map Reading and promotion cadre tests. Since one cannot attend a promotion cadre without passing education examinations and there is no free time limit, the supersession is not only permanent but it is compounded at each stage of promotion, due to the increasing difficulty in passing examinations in Hindi by those from non Hindi speaking areas. To give an example, even a non-Hindi knowing matriculate in Tamil or for that matter in any non-devnagri script language would be superseded because he would be illiterate in Hindi. Apart from some odd protests in Quarterly Security Intelligence Reports from non Hindi speaking regiments or Corps, which have been always turned down by the Army and some parliamentary questions which have been fielded diplomatically, the people at large seem to have accepted this unfair supersession as one of 'those things'. The question is, will this acceptance of fate last? and if so, for how long, before it becomes a running sore?

Officers are granted promotions by time scale upto the rank of Major, provided their record of service has nothing adverse and they have passed their promotion examinations within the laid down time limits. To become a Captain, an officer gets six chances to appear in an examinations which has four subjects. To be promoted from Captain to Major he can attempt an examination comprising six subjects in seven chances. He can clear both these examinations one subject at a time. As long as he can clear the whole examination within the six and seven chances mentioned above, his seniority is not affected. He loses seniority only if he takes more time than what is laid down.

Promotions to Officers beyond the rank of Major are given on the basis of a selection carried out keeping their record of service in view. This record of service comprises ACRs, reports of training courses attended and disciplinary aspects if any. It will be seen that the major portion of the record of service is the ACR which is, at best, a subjective assessment. Further, the rules for promotion to various ranks and the manner in which the record of service is to be processed for such a selection are not known to the Officers at large. However, what is definitely known to all is that the record of service is processed by a computer based on some qualitative requirements, even though unknown, and an anonymous master data sheet of the record of service is gone through in great detail and as objectively as possible by a selection board consisting of very senior and responsible officers. Therefore, the usual run of appeals is against the Selection Boards. However, where these decisions on the suitability or otherwise of an officer for promotion have been challenged, the courts have sometimes decided in favour of the plaintiff. Therefore, there seems to be a necessity for publicising the qualitative requirements and the rules for promotion to various ranks and for improvement of the reporting system. We should also ensure that adverse decisions of the selection boards are automatically heard in appeal by an independent authority whose decision should be acceptable to every one.

It is surprising that whereas the number of complaints and petitions against supersession and loss of seniority from the JCOs and OR is not noticeably large, those from the officers are on the increase. This paradox, inexplicable as it is, needs to be taken note of and the terms and conditions of the officers, JCOs and OR should be looked into afresh.

REDRESS OF GRIEVANCES - STATUTORY AND NON- STATUTORY COMPLAINTS

According to the Army Rules and relevant Army Orders, Officers, JCOs and men, who consider themselves aggrieved by any decision of the Management are empowered to approach the Government of India or the Chief of

the Army Staff (through the Commanding Officer) respectively for redressal of their grievances. These complaints, according to the orders, are required to be processed at top priority so as to ensure that they reach the Army Headquarters within 45 days. This is an excellent safety valve. In practice, the Commanders in the intermediate chain of command are required to endorse their comments with particular reference to the advisability or otherwise of acceptance of these complaints. Since the complaint is usually against the decisions of the commanders, most of the complaints are rejected by the Army Headquarters or the Government of India. The reason will be apparent. It is because the original decision making body against whom the complaint has been filed also happens to sit in judgement on the validity of the complaint. Even when the Ministry of Defence reviews complaints as an independent body, it over-rules the recommendations of the Army Headquarters very rarely and that too most reluctantly.

It is a pity that a good system is not functioning at its optimum level of efficiency because of human factors. Therefore, it would be appropriate to rejuvenate this moribund system by referring all complaints to an independent body as a matter of course for automatic review. If automatic review is applied to all adverse decisions of the Management, the necessity for putting up complaints would also disappear.

DIRECT FEED BACK FROM THE UNITS

The Army has provided another excellent in built system of ensuring that the problems of the rank and file are brought to the notice of the Chief of the Army Staff every quarter. This is done by all Commanding Officers by sending a report directly to Army Headquarters. Since complete anonymity is maintained while processing these points, a large number of problems are brought to the notice of Army Headquarters expeditiously. However, it is a moot point as to how many of these are accepted and acted upon when put up. Here it is also worth considering whether even those suggestions considered worthy of acceptance by Army Headquarters for implementation are accepted by Government. If there is a large number of such cases, I think these should also be referred for arbitration by an independent body.

SUGGESTIONS FOR IMPROVEMENT

It will be apparent that the Army has made very sound arrangements for creating inbuilt checks and balances to ensure justice to All Ranks in view of their having sworn away their rights of protest. But as these systems are not functioning as well as they ought to (otherwise there would not be so many court cases against the Army and such a large spurt of complaints), there is a crying need for an appellate body which can adjudicate between -

- (a) the Administration and the Personnel;
- (b) the Army Headquarters and the Ministry of Defence, and/or Ministry of Finance (Defence);
- (c) review the decision of the court martial and summary awards; and
- (d) hear appeals against adverse decisions in promotion cases and alleged harassment by seniors to include adverse remarks in Annual Confidential Reports.

In order to improve the system, I suggest that there should be an independent judicial bench to which all cases are referred in automatic appeal. This judicial bench (Military Affairs) should consist of at least four judges and should form part of the Supreme Court (Courts of Military appeals in USA and UK exist). The Chief Justice of India should be its ex-officio head and fifth member.

The Judicial bench should have the following members:-

- (a) Chief Justice of India - Ex-Officio Chairman
- (b) Three sitting Judges - Fully committed to this bench.
- (c) Three retired representatives, one each from Army, Navy and Air Force (ex Army Commanders/Corps Commanders or equivalents could be appointed).

This will ensure that the Highest Court in the country automatically hears an appeal in all cases where punishments have been awarded either summarily or by Courts Martial. This court will also adjudicate -

- (a) all cases of statutory complaints;
- (b) points of dispute relating to welfare of troops which have not been resolved for more than one year between the Army Headquarters and Ministry of Defence and/or Ministry of Finance (Defence); and
- (c) all cases of denial of promotions.

This will ensure that writ petitions need not be filed against the Army nor would there be a necessity for any aggrieved person to approach the High Courts and Supreme Court for redressal of grievances because this special bench of the Supreme Court will automatically hear his case in appeal. It is necessary to locate this Bench at the Supreme Court to avoid further litigation in a 'higher court' even after an automatic review.

I am aware that the Management may not, in the first instance, take kindly to my suggestions that an independent judicial body should adjudicate on matters so far considered within the purview of the Army's own internal Management. However, I am equally certain that on second thoughts, it will be conceded that the flaws in our otherwise excellent system which have come up due to human factors are now making it necessary that we do not permit the vocal and moneyed personnel only to approach the courts against our system. If our decisions are to be reviewed by the Courts, it is better to so order things that this becomes a routine facility available to everyone - or ensure that the Courts do not interfere! In a closed society like ours, we should take pains to see that the present reluctance of the Courts to interfere in Service Matters does not wear off because of repeated reference to them by serving personnel and what is even more important, by repeated reversals of our decisions by the Courts. A step taken now to establish a Special Bench of the Supreme Court for Military Affairs would be more graceful than to keep losing face repeatedly.

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Letters to the Editor

Letters are invited on subjects which have been dealt in the Journal, or which are of general interest the services.

The JCO

In the July-September journal of 1988 Brigadier Grant and General Sinha have argued the pros and cons for the justification of a JCO. While the former concluded that JCOs should go the latter feels that they are a valuable asset. Neither has really gone into any depth in placing his point of view.

In fact, though the Indian Army which we are so proud to have inherited from our masters, started with a corps of "chowkidars" class, it was, by the end of the 18th century, very much of a reality in Madras and Bengal. The ethos thereof, that we have inherited, as well as rank and file set up, was very much in evidence by then. Both the name "Sipahis" and the rest of the ranks were inherited via the French who had started regular forces before the British. However Brigadier Grant has got nearer to the truth than the General. The fact is that the Indian soldiers were hired as purely mercenary forces to fight on behalf of the British. Therefore a number of British officers raised units on contract. These contracts were directly made with the person who was to be the Subedar Major or for a small group of sub-contracts which the Indian agent could get together. There was little if any pay. But, as the British reputation grew so did the desire to join them primarily for the loot that was the main attraction. Few if any Britons could talk any Indian language. It was thus that they kept in tune with the group leaders on a 4 to one span of control basis; rather like the company organization in Europe. However as the Armies grew the unified language adopted in the Indian army was the same as used by all indigenous mercenaries i.e. Urdu, because that was the language used by the Mughal armies and the forces brought together from various parts of the Mughal empire, as well as the alliances and federations made between multi-linguistic forces from various parts of India.

The British officer therefore found himself from the start, as a C.O. or a company commander who taught his troops the drill manoeuvres and battle field essentials and then directed his troops entirely through the Subedar Major or Jamadar. Indeed the officer kept himself at a distance from the troops visiting them on an as required basis and creating a paternal relationship of command. As the desire to serve in the victorious British forces became greater, more and more discipline and pick-and-choose was instituted.

Even to my day recruiting was done by N C Os and (what are now) JCOs. A recruit had to be accepted by the Senior Squadron Risaldar, and then, a group of them would be put up for the adjutant to accept. In our time a medical check was necessary at which a young man could sometimes fall by the way side; but the expression "fit for" in the Indian army owes its origin probably to recruits brought before the Adjutant. Therefore the JCO was the father figure of any unit and the Risaldar Major the head of that picture. After the Mutiny, when one class units were broken up, senior Risaldars took on even greater significance. Each squadron kept alive its family and area relationship. In time that relationship turned into being "true to one's salt" i.e. "Sarkar Ka Namak", a phrase which lasted till World War II. The JCO was therefore the central figure in the officer-man relationship. However during both the Wars, when Britain was compelled to raise forces of over one million in India, this comfortable feudal relationship had to break up. But this does not mean to say that the relationship of the JCO has become anomalous. One would say that it has further grown; because the JCO is still of the soldiers and from the ranks. He is therefore close to the men of the ranks. With a multi cultural country such as ours of today the JCO plays an even more vital role in keeping the officer OR relationship close. That there are no JCOs in other countries is an irrelevant argument. The JCO has grown as a part of our set up. His role has changed with the days of our Army. Indian officers have to be much nearer to their men than British officers ever were; furthermore this relationship is now simply not supportable by a feudal pattern.

If one wishes to have an even closer look, then, one may see the close unit command and control in an army unit and compare it with the pattern of the Navy and also the relationship of the Air Force. No, the JCO may no longer be the linch pin that he was in the British days; but he is undoubtedly now a highly desirable person; experienced, balanced and binding the present Indian army. His role will grow in many directions in the future. It will not diminish. The future JCO will be a man of the men, or a proven leader and invaluable; particularly in this era of the misguided slogan "keep the army young", while already equal service is preserving physical and mental youthfulness till beyond the sixties. However that is not the subject of this discussion. The conclusion in India is that the JCO has fully proved his worth in the past. So, because of this, and the fact that he is a man of the men, he is likely to play a more and more important part in the management, motivation and direct leadership of the soldiers that serve below him in the future.

— Major General (Retd) E. Habibullah

Soviet Artillery: Queen of the Battle?*

Col. R RAMA RAO (Retd)

The Soviet Army the inheritor of Czarist Army's traditions, is what it is today essentially because of the historical circumstances under which it grew and in the process developed its distinctive features and ethos. The Red Army's heroic performance in four years of gruelling war (1941-45), when the country lost more than thirty million people killed and millions more injured and uprooted from their homes, has deservedly earned for it its own reputation as the saviour of Russia. As a vital element of the Army, Soviet Artillery on its own won laurels which have reinforced its status as the Queen of the Battlefield. In medieval times, Russian rulers were constantly under threat from invading Tartar and Mongol tribesmen. Russian gunners, more than any body of men within the Army served time and time again to repulse invaders' attempts to overrun parts of their country.

These are several reasons why its guns could and did make decisive contributions to the Russian Army's victories down the ages.

First, the threats to which Russia historically has been exposed left Russian rulers with no option but to develop a weapon which would inspire respect in the minds of Russia's enemies;

Second, the nature and extent of Russian land mass, vulnerable to penetration by aggressors;

Third, the generally sparse population, particularly in the vast Siberian desert and East Russia generally which, at least initially, favoured aggressors who were mobile and ruthless.

The task of the Russian Army has been to defend its country and people against aggressors from the East or the West and on occasions from Turkey and across the Black Sea. From as early as the middle of the fourteenth century, Russia has had to contend with Mongol hordes from the East. These were marauders, well mounted, but somewhat shy of meeting Russian armies and especially Russian guns.

Tradition of Excellence:

Although Russian artillery's prowess was known to Western observers from the days of King Charles XII of Sweden, its prowess came to be recognised widely first after Napoleon's attack on Moscow and subsequently after

*Red God of War: Soviet Artillery and Rocket Forces by Chris Bellamy, Published by Brassey's Defence Publishers, London - WCIX 8 HR, 1986, Pages 247, Price £22.50

the Second World War, referred to in Russian literature as the 'Great Patriotic War'. Napoleon, himself a distinguished gunner, recognised the signal contribution that Russian guns and gunners had made to the historic defence of Moscow in the early years of the nineteenth century.

During the Napoleonic Wars, artillery was recognised as the 'decisive' arm, not a mere supporting arm. The immediate reason for this was that at Borodino, where the Russians had deployed 640 guns, and the French, under Napoleon himself, had 587 guns, the battle was essentially an artillery duel. Apart from their numerical advantage in the number of weapons deployed, the Russians enjoyed another advantage in that their guns could outrange Napoleon's. The guns of each side wrought havoc on the forces, mounted and dismounted, of the other.

The dogged defence of their capital city by Russians and the punishment, despite odds, that beleaguered Russian gunners could inflict on Napoleon's army turned the scales in favour of Russia and against Napoleon. With the benefit of hindsight one could say that Napoleon had taken an uncalculated risk in attacking a major centre of resistance far away from his home base and without secure lines of communication from his main bases to his objective, Moscow.

Russian Gunners' Operational Philosophy:

A British admiral had once said that the Royal Navy's operational doctrine should be "hit first, hit hard and keep on hitting", that is, carry out the three Hs of war. The Russian artillery may well have this motto, since it has been acting up to it ever since it became a coherent fighting force. This, it must be said to the credit of Russian Artillery, it has been almost from the day it was born and went through its baptism of fire when Tartar Khan Tokhtamysh attacked Moscow in 1382.

Once battle is joined the objective of any force would be to destroy the enemy, his troops and means of transport and equipment. Artillery has been the Arm that does the killing. Few soldiers alas, including artillery officers of most armies - excepting of course the Russian Army - realise that guns and gunners are responsible for an overwhelming proportion of casualties sustained by troops opposing them. This is especially so when pitched battles take place and adequate artillery pieces are deployed and well utilised.

Of the total casualties sustained by British troops on the western front during World War-I, 58 per cent were due to enemy artillery fire. During World War-II, casualties due to enemy gun fire in Europe were as high as 75 per cent. Likewise in Korea, an estimated 60 per cent of all American casualties, killed in action or as the result of injuries sustained in battle, were due to

enemy shell or mortar fire.

During the Second World War, 51 per cent of Red Army's casualties were due to enemy gun fire. In the closing year of the war when Germany had intensified its counter attacks against advancing Red Army troops, 61 per cent of the latter's casualties were directly caused by German guns.

Thus artillery kills and is meant to kill, whether it is positional warfare as during the First War or mobile warfare as during the Second War.

The Red Army was the first to realise this and learn to gain the maximum advantage by developing its artillery arm, continuously induct new technologies into gun and ammunition production, improve gunner mobility and fire power and derive the utmost therefrom.

For all their 'kill' capabilities, guns and mortars can have only a limited range. To deal with enemy positions at much longer ranges than can be reached by guns, Soviets have developed Rocket Forces which are part of their Artillery Arm. And rockets include all missiles extending from inter-continental missiles at one end to close range anti tank missiles at the other.

Indian gunners and armed forces generally can learn much from the operational doctrines adopted by Soviet artillery. First, in order to be effective, artillery fire must be concentrated, that is use the maximum number of guns that you can muster and concentrate their fire on your objective. Used this way, the force commander gains his objective in the shortest time and at least cost in terms of casualties to own troops.

Second, engage the enemy when he is still far away, so that he sustains casualties, and is forced to disperse making it easier for own troops to attain their objectives.

Third, using rockets, enemy support forces positioned at some distance could also be engaged i.e. engagement of 'follow on forces', thus preventing reinforcements from reaching enemy positions under attack by own armour/infantry.

Soviet guns and rockets can fire rounds with nuclear war heads too, if needed. These were developed in the early post war period in order to deter USA and its principal allies from attempting pre emptive strikes on Soviet forces in forward positions. Russian doctrine is 'No first use' of nuclear weapons while USA's is, 'use nuclear weapons' if considered necessary to blunt a conventional attack. Thus, as its strategists have often declared, USA is prepared to initiate a nuclear attack. With the conclusion of an agreement between USA and the Soviet Union on the elimination of intermediate range nuclear weapons (INF Treaty) both sides have started the process of decommission-

ing nuclear weapons with a range of 500 km to 5000 km. But tactical nuclear weapons, ie. weapons, with ranges under 500 km will remain, at least on the side of NATO. Predictably, the decision of NATO, particularly USA and Britain, to retain tactical nuclear weapons in forward positions in Europe has caused apprehensions in the minds of the people of West Germany (as indicated by Mr. Alfred Deggar a leading member of Chancellor Helmut Kohl's party: (Indian Express May 9, 1988).

There is much that Indian defence planners and Indian gunners will find interesting and useful in the way Soviet artillery is armed, deployed and utilised in battle. All these and many other interesting details about the Red Army's Artillery Arm are chronicled in Chris Bellamy's well produced and useful publication "Red God of War: Soviet Artillery and Rocket Forces, which Indian gunners and other defence officers would do well to study.

India is only now trying to provide missiles to Indian defence forces. This is a welcome move, given the prevailing security environment in the region. Surface to Air missile 'Trishul', Surface to Surface missile 'Prithvi' and a third generation anti-tank missile 'Nag' are being tested and hopefully will soon be introduced into service as indicated by defence Minister K.C. Pant at a meeting of the Consultative Committee of Parliament on May 6, 1988.

Reforms of US Military*

Lt. Col. VIJAY TIWATHIA

No war in US history has quite scarred and shaken the confidence of the military as its 'Ten Thousand Day War' in Vietnam. Even now, over a decade since the hurried humiliating retreat from Saigon, the US Military is grappling with the trauma of its first ever military defeat in its two hundred year history. The context of 'America Can Win' is the humiliation of Vietnam and the consistent poor military performance at various levels of the spectrum of war by US Armed Forces in such widely dispersed global theatres as SE Asia, Iran, Lebanon, Libya and Grenada, since then. The book's agenda for reform is framed by past failures and the ever increasing defense expenditure since President Reagan assumed the Presidency in 1981. The grand aim of the books is to suggest measures that would ensure victory in the future. The prescriptions for future victory cover varied and interesting aspects relating to US conventional forces. Most of the prescriptions are however familiar and common place. But that in no way diminishes their value or relevance, even to armed forces other than American.

It is clearly an important book about the US Armed Forces. More than anything else the credentials of its authors make it so. Gary Hart, the Democratic Senator from Colorado, and till recently a candidate for the US Presidency, is an ambitious articulate, charismatic, and not withstanding the Dona Rice episode, an influential member of the US politico-military elite. The co-author William S Lind, the conservative defense analyst, and long time defense advisor to US congressmen, is read with respect in US military circles. His recent book 'Maneuver Warfare Handbook' has been widely discussed and well received by the US Defense establishment. That's not all. Other than the individual views of the authors, the book represents the views of what in the US has come to be labelled as the Military Reform Movement. The aim of this movement, whose spokesmen the authors seem to be, is to "discover the root causes of our (American) military failure" and "develop the ideas necessary for restoring military effectiveness". The reform movement, the authors claim has three components: political leaders, the most prominent amongst whom are 130 Republican and Democrat Congressmen; civilian defence experts, whose representative William S Lind is; and what the authors call "the more important" element in the Reform Movement, "The Uniformed Reformers", especially Lieutenants to Lt Colonels, i.e., the Viet-

America Can Win - The Case for Military Reform by Gary Hart with William S. Lind.

Published by Adler & Adler Publishers, Inc. USA, Maryland 20814, 1986, Pages 301, \$17.95.

nam War and post Vietnam war generation of officers. The great aim of this hybrid group is to make "US Defense policies and practices - from infantry squad through the office of the Secretary of Defense and the Congress - serve the purpose of winning in Combat". But sensibly, their energies and enthusiasm is only to be directed at winning in conventional combat. Wisely the reformers believe that in Nuclear War there would be no difference between the 'Victor and the Vanquished' but not so wisely conclude that the nuclear war doctrines are beyond reform merely because they are based on speculation. What they gloss over is that though the doctrines are speculative, the weapons are very real. And that reform about thinking about them is not only necessary and possible, but of the very greatest importance - may be not for victory, but for survival; which in the end is what counts.

Ignoring the nuclear war question, however, does give the book focus. A focus of great relevance to the Third World as US conventional forces, are more for Third World contingencies than the Soviet Union. After all its hardly credible to think that the United States would fight a conventional war with its long time adversary the Soviet Union without going nuclear.

The three part book begins with the diagnosis of American military weaknesses in what it calls the superstructure - the Ground Forces, the Navy, the Air Force, and the Defense Budget. For the Ground Forces - the Army and the Marines - it recommends 'Maneuver' type war as the German's waged it in World War II, and as the Israeli Defense Forces have updated it since then in their various wars with the Arabs. It curiously cites United States 1983 'victory' against Grenada, the lilliputian island state in the Eastern Caribbean, to the adoption of 'Maneuver' type war by Second Battalion, Eighth Marines, of 2nd U S Marine Division, in its operations against the ragtag demoralised force of few hundred Grenadians armed with nothing more lethal than ancient shot guns and rifles. Whatever be the current US capability to wage real 'Maneuver Warfare' but as a concept and buzz word it is succeeding. The US Marine Corps has gone so far as to give it bureaucratic respectability by establishing a Maneuver Warfare Board.

The other prescriptions cover a wide range of subjects. The authors make a convincing case for reducing complexity and cost of weapons and equipment; decreasing personal turbulence and increasing unit cohesion by adopting the age old Regimental system, which in the US is typically identified by the acronym COHORTS (Cohesion, Operations, Readiness, and Training); reducing command flab, especially at the upper echelons, i.e., at the colonels, Generals/Admirals levels; reducing the lengthening tail in military organisations; and making training more realistic.

Many of the concerns and ideas are relevant in our context too. Infact to

a surprisingly large extent. Especially the predilection amongst some of our policy planners to chase expensive hi-tech computer oriented equipment and weapon systems of doubtful combat value. The authors are particularly critical of such state of the art US weapon systems as its M-1 MBT, Bradley ICCVs, DIVAD SP radar-directed anti aircraft guns; and 'fancy command control systems' which generate so much 'noise that they would quickly paralyse the user'. In the chapter on the US Navy the authors pull no punches. They call it 'the world's largest and most expensive naval museum'. Expensive it is: each of its aircraft carriers cost upward of Rs 3500 crores, and the battle group that is needed to support it cost an astronomical 15000 crores. They make a convincing case for replacing the large aircraft carriers with smaller, cheaper ones, and designating the Submarine as the capital ship in view of the increasing vulnerability of aircraft carriers. They argue that the Navy should go in for cheaper, smaller submarines and increase their number to 300.

The American Air Forces - the US Air Forces, Naval aviation, army aviation, and Marine Air Corps - according to authors are in no better state than the Navy or the Ground Forces. They disclose similar pathologies: penchant for hyper-expensive equipment of doubtful combat value (F-14: cost approx Rs. 35 crores; C-5B transport Rs. 200 crores per piece; Apache attack helicopter Rs. 12 crores per piece); overstaffing; overbureaucratized organisation; insufficient real time training; and a long tail.

The forth element in the Superstructure that the authors focus on is the ever increasing US Defense Budget. But before they discuss this controversial and highly politicised aspect of the superstructure, they are candid enough to note that there is no consensus within the Military Reform Movement on the size of the defense budget. What they find most disquieting in the defense budget is not its size, but the 'plan reality mismatch' it epitomises. And how it's ever increasing size has contributed neither to combat capability nor the overall size of the US armed forces. They are alarmed that each year inspite of massive defense outlays the size of US Forces is shrinking as a result of the increasing cost of weaponry that the US Armed Forces prefer. The authors overstate when they predict that if the trend continues it may "translate in involuntary unilateral disarmament". Given the outlook of those currently in power, there is however no chance of such a desirable outcome. The US war machine is there for keeps. All that may happen, is that its exports to Third World countries would, as has already been happening, increase so as to keep the arms industry profitable and the US Armed Forces supplied with subsidised weapons.

Part Two-"The Reason Why" - and the briefer part three" - Changing the

System" of the book partially repeat the arguments in part one of the book. What, however, the readers, especially armed forces officers in the sub-continent will find most interesting in this part of the book is chapter 5 which is devoted to the officer corps. Officer Corps whatever the colour of uniform they may wear or whichever nation they may belong to frequently show similar predilections and pathologies. In the final analysis all problems that afflict armed forces have their roots in the officer corps. As the authors pertinently note: "many of the deficiencies in our defense superstructure must be traced to problems of the officer Corps", the problems that American officer corps has are several - almost all systemic as in other armies. The nature of the problem is basically moral and ethical, as the survey cited in the book of middle piece officer in the US Army illustrates. Majority of these officers believe that "senior Army leaders behave too much like corporate executives and not enough like warriors", and that the "the bold, original, creative officer cannot survive in today's Army" and even more damningly that "the officer corps is focused on personal gain rather than selflessness". Quite like the views of Indian Army Officers, if one is to go by the articles that appear in our own journals.

The officer corps' problems, Hart and Lind, postulate are on account of the officer surplus; the military education system; and the up or out promotion system. For much of these problems the authors offer commonsense solutions, which however are unlikely to be implemented - as the malaise appears deeply entrenched and institutionalised. In any case as the problem is moral, the cosmetic surgery that the author(s) suggest will hardly help. Some of their solutions are: 50% reduction of the officer corps, by allowing officers to leave service even before they have done 20 years; offering what in our army was much talked about some years ago as the golden hand shake; the restructuring of military education to teach "how to think", not what to do or what to think"; and promote men, with strength of character, and imagination, rather than the ticket punches and good organisation men. For locating such types they recommend professional test for officers in the knowledge of the art of war, backed by review of the performance records, decentralisation of promotion authority to regiment, the division, the branch the officer is serving in; and the right to fire an officer as in private corporation. The other recommendation, is incidentally, "a running pay band", a concept which the Indian Army has recently introduced. In sum what the authors want is an officer corps modelled after the German General Staff; Officer's with war and victory on their minds.

What would be the state the world if such an American officer corps were to come into being, one shudders to think. But this is a question which does not seem to trouble the authors of this otherwise sensible book. Similar-

ly the authors do not define what victory, a word they repeatedly use, in the context of the US use of force in the contemporary international system would imply.

To put into perspective the basic tenor of the arguments of Hart and Lind, one must remember that the great victories of the Germans in World War II, their mastery of 'Manoeuver Warfare', their apparently excellent officers corps, and their effective combat weapons in the end led not to a victory or peace which they hankered after, but to 20 million dead and a country despoiled and divided. The reason for German excesses and eventual defeat are many but the important one is that an amoral political and military disposition blinded it to the fact that the satisfactory outcome of war, i.e., peace, demands that the act of violence, and all that goes with it, be firmly controlled by superior moral purpose. This larger lesson of World War II, unaccountably, the authors ignore. They seem to forget that the great lesson of World War II and eventual German defeat, as of the Vietnam War and American defeat, is that War's ultimate - rather than short term - outcome is decided not by operational brilliance but by the political and moral foundations of the war. And that in modern war, which are characterised by ever increasing role of the people, not only in larger policy issues, but the strategic, operational, and even tactical issues are decided by the political response to the clash of arms. This point, especially in the context of United States current Third World targets, the reformers do not address. This oversight is probably deliberate given the political premises of the reformers.

Notwithstanding the ominous preoccupations with 'victory' of 'America can win' it is a significant book and must not be ignored, even though the book is meant primarily for an American audience, policy planners, officers in the Third World, and all those interested in United States' continuing preoccupations with global hegemony, would do well to read it for its interesting, candid and controversial insights.

Book Reviews

Central Organizations of Defense

BY MARTIN EDMONDS,

Published by Frances Pinter (Publishers), London and Westview Press, INC, 5500 Central Avenue, Boulder, Colorado 80301, 1985, Pages 237, Price £17.50.

Edited by Martin Edmonds, a senior lecturer in higher defence studies and in politics at the University of Lancaster, the collection contains contributions from a galaxy of eminent specialists in politics, international affairs, and higher defence studies. The articles cover the higher organisations of defence of a number of countries with particular reference to its structure and the administrative context within which policy decisions are made. The selection of countries for inclusion has been carefully worked out to illustrate the differences in the constitutional and legal standing of the relevant department of the government and of the armed forces in differing patterns of government. The defence organisations selected thus present an interesting variety: the two super powers, China, a major communist power, Britain, because of her peculiar constitutional status, the Federal Republic of Germany whose central defence organisation was built up from scratch, France, with her deliberate attempt to rationalise her strong executive Presidential system of government under the Fifth Republic, Italy because of her experience of the military trying to exert influence over government policy, Spain, which has witnessed constitutional changes after four decades of dictatorship, Norway, a modern state with a militia based defence and Japan, which also acquired a new constitution under US influence and whose defence forces are termed 'self defence forces'.

The editor makes some interesting observations:

(a) The armed forces of any state, constitute bodies of men (and women), who are organised, equipped and trained to bring physical force to bear as a means (or an option), at the disposal of those in political power, to resolve national and/or international political disputes. By their very nature, they have the potential to become an independent force. The problem has assumed greater significance because of the escalating magnitude of defence spending and the phenomenal increase in the destructive power of weapons, their increased ranges and effectiveness and their greater accuracy and reliability.

(b) The central organisation of defence contains the essence of the civil-military relations within any society. The relationships range from one ex-

treme of the armed forces being subservient to their political masters to the other, where the armed forces or an element thereof have taken over the government and the differentiation no longer exists.

(c) The requirement for evolving an appropriate structure and processes of central organisations for defence is no longer merely one of political supremacy over the military. Defence spending has constantly escalated and costs pertaining to men and material have sky rocketed. There is also an increasing technology shift to capital intensive services like the Navy, the Air Force and missile based forces. Weapon costs have risen exponentially not merely among advanced industrial nations; even developing states are not prepared to accept second hand, obsolete or relatively unsophisticated weaponry. There is thus considerable pressure on defence planners not only to evolve cost effective solutions for defence policies, goals and commitments, but also to effect management efficiency among those who administer the central defence machinery including areas of operations, training and research and development. It is, therefore, but natural that all states manifest a desire for improved efficiency and expanded central financial control over defence spending.

The compilation contains useful data which will be of great assistance to scholars and defence policy makers in comparing and analysing different organisational patterns and in identifying similarities and differences. It is of special significance to own planners in India who continue to labour under a central defence organisation which is largely a legacy of the defunct British colonial system.

--Lt Gen P E Menon, PVSM (Retd)

A Dictionary of Modern Defence and Strategy

BY DAVID ROBERTSON

Published by Europa Publications Ltd., 18 Bedford Square, London, WC1B, 3 JN (UK), 1987, Pages 324, Price £24.00.

This book goes more than being a standard dictionary of military terms, arranged alphabetically according to their titles. It also sets out, dispassionately and succinctly, the policy implications and theoretical arguments that lie behind the concepts and physical specifications.

This is well illustrated by the description of the entry "Guerrilla Warfare". After explaining the mechanics of how this is fought, and the problems encountered by formally organised armies in dealing with guerrillas, the author has some interesting conclusions to offer. He says: "It is widely believed that a drawn out guerrilla war will defeat an orthodox army, but his-

tory produces little evidence for this..... The French Resistance was really of use only as a support to the 1944 Allied invasion. The US Army was almost invariably successful in actual operations against the Viet Cong, which was almost completely destroyed in the 1968 Tet offensive; thereafter it was the regular army of North Vietnam which the Americans were fighting, an army that had already shown its worth against the entirely orthodox campaign against the French in 1954..... The costs of continuing to garrison a foreign country..... is often too much for the *political* will of the occupying power, which may decide to withdraw, or accommodate the guerrilla leaders, although militarily undefeated."

Take next the comment under 'Inter-Service Rivalry' David Robertson writes: "This rivalry tends to lead to a system where each service fights for its own preferred projects, and the central authorities are seldom in a position to create a rational overall policy based on independently assessed national needs. Partly as a consequence, the development of strategic doctrine itself becomes distorted; doctrine tends to follow the procurement of various weapon systems, rather than vice versa". The selection of titles for inclusion in this Dictionary has been catholic. There is an entry devoted to Robert McNamara, the US Secretary of Defence, his influence in the evolution of nuclear strategy, and his contribution based on his industrial experience, in applying the lessons of cost-effectiveness and rational planning to an area where they had been notably lacking. There is an interesting reference to the 'Military Reform Movement', which is a rather loosely organised body of defence analysts in the USA and which, since the mid-1970s, has become a very powerful voice in the American defence community. They propagate some radical views; the military establishment has become over-bureaucratic; the careerist and managerial ambitions of the officer corps have replaced a 'service and leadership' attitude to soldiering. Focussing on the purchase of more and more technologically-advanced weapon systems, in smaller quantities at ever-increasing prices, actually buys less and less real security. Even if the Movement's ideas have never been totally accepted, it has had some successes, such as the strengthening of authority of the Joint Chiefs of Staff and the US Army's creation of extra light divisions. Apropos costs of equipment, the Dictionary states that the US M1 ABRAMS Main Battle Tank costs around two million US dollars, and stresses its vulnerability to relatively cheap anti-tank weapons; the infantry anti-armour missile costs only about 7000 pounds sterling.

An encyclopedia such as this, of necessity, must include abbreviations and acronyms, mainly the fall-out of the nuclear weapons age. POMCUS is one not so well known; it stands for Pre-positioning of Material Configured to Unit Sets. This is the US military's jargon for equipment stored in Europe

to be used by reinforcements flown in during a NATO mobilisation.

Professor David Robertson has done prodigious research in compiling this Dictionary. It is an invaluable reference book and the professor will find himself in good company, with percipient military thinkers, in his analysis and views of the current defence scene.

--Lt Gen Thapan (PVSM)

The Sword Bearers: Studies in Supreme Command in the First World War

BY CORRELLI BARNETT

Published by Hodder Stoughton Ltd., Mill Road, Dunton Green, Sevenoaks, Kent (UK) 1986, Pages 387, Price £9.95.

This is a study of a rare kind as the Supreme Command is represented through four generals only. Like most other studies here also the first world war has been compared with the second. The main emphasis is on the Western Front and the naval battle of Jutland. Mr Barnett in this work uses an approach familiar to the readers of the book 'The Desert Generals'.

The study begins with Col Gen von Moltke and his invasion of France. The travail and the tragedy of Moltke could not have been bettered. Moltke emerges as highly intelligent but a tragic figure doomed to failure. The background of Schlieffen Plan, which was first implemented and then abandoned has a moving quality, emerging from a deep insight.

The description of Sir John Jellicoe and the examination of Jutland battle begins with persistent attempts on the part of Sir John to persuade the admiralty to change their minds and cancel his appointment to command the Fleet; on this subject Mr Barnett is highly critical. It is suggested that this reaction on the part of Jellicoe sprang from the intimate knowledge of the weaknesses of the Fleet.

Most naval students will probably agree that Scheer would have been better advised to leave his pre-dreadnaught battle ships out of the battle, as they were a hindrance rather than a help.

Mr Barnett commends Petain's strategy of 'waiting for the Americans'. Petain's attitude to the mutineers of the French Army in 1917, brings out a classic example of punishing the ring leaders ruthlessly and at the same time eliminating the roots of disaffection.

Mr Barnett shows great skill in giving detailed accounts of complicated battle situations. The studies of Petain and Ludendorff bring out the over bearing strain on the commanders. Petain withstood it while Ludendorff

broke down. Haig and Foch come through battered but unbowed. Mr Barnett, however, is sometimes carried away, by his own perceptions of personalities and thus his analysis of certain situations and plans appear subjective.

Overall, this is an unique account of the major battles of the First World War and is well illustrated with maps and diagrams.

--Maj. Gen Afsir Karim

China's war with Vietnam, 1979: Issues, decisions and Implication
BY KING C CHEN

Published by Hoover Institution Press, Stanford University, Stanford, California - 94305-6010. 1987 Pages 234, Price \$ 18.95.

The brief Sino-Vietnamese War in 1979 was the bloodiest military conflict in the communist world. For the short duration of the war, the casualties were phenomenal - almost five times the casualties incurred in the Indo-Pak wars for a similar length of period of fighting. Professor Chen in an in-depth analysis of the reasons leading upto the conflict brings out lucidly how China, after having been the most generous donor of aid to Vietnam during its war of independence against France and again during its struggle against the USA for the re-unification of the country, should over a short period of time bring about such a change as to itself become Vietnam's No 1 Enemy. From 1950 to 1978, Chinese aid to Vietnam exceeded \$20 billion and during that period it sent over 3,00,000 military personnel to Vietnam on rotation duty (including 1,70,000 in a peak year) of whom 1,000 were killed. China even went to the extent of warning the United States that if it expanded its war in Indo China, then China was determined to take all necessary measures to support the Indo Chinese peoples, "not flinching from the greatest national sacrifices". In those days the Vietnamese leaders also gratefully acknowledged their debt to China. After defeating the French at Dien Bien Phu, Hoang Van Hoan pointed out, "without the artillery sent by China, it would not have been possible to destroy the French army corps".

Professor Chen goes on the trace how various factors changed this one time close relationship between the two communist neighbours, sharing the same ideology, to one of intense hostility leading finally to a war by which China wanted to teach Vietnam a lesson. He brings out how this decision to go to war was not a chance decision forced upon China nor was it the result of a situation of drift and inadvertence. He analyses how this extreme decision was made by the Chinese leadership after much thought appraisal and debate. It comes out clearly how after the death of HO Chi Minh, who held an equal balance between the two communist giants, the USSR and

China, his successor Le Duan, slowly took Vietnam into the Russian camp, thus changing the equation with China. Along with these were Vietnamese aggressive interference in the affairs of Kampuchea and defeating the Chinese backed Pol Pot regime. Besides some minor disputes over territory, the last straw on the Chinese camel's back was the Vietnamese policy of forcing out of the country the large ethnic Chinese population. We can understand how the situation finally deteriorated to one of war but it still is difficult to understand why the situation should have come to such a pass. Professor Chen has also discussed at length the consequences of the war and how both sides learnt their lessons.

On the Vietnamese side the main effect was on their worsening economic condition, which was further exacerbated by their decision to strengthen their armed forces to prevent China from repeating such adventures in future. On the Chinese side the strength of the Vietnamese came as something of a shock and the weaknesses of their own armed forces were forcibly made patent. It gave hope to other nations bordering China that she would not be in a hurry to choose military options to settle political problems with her neighbours.

Though the book covers in great detail the events leading upto this conflict as also its consequences, the details of the actual war are sketchy. What little details of the action that are described are very difficult to follow because of the lack of maps and sketches giving the concentration areas of the troops, their objectives and operational plans. The one solitary map, which shows broadly only the Chinese thrust lines, is totally inadequate for the purpose. This book may not interest the military tactician but is certainly of great interest to those studying the geopolitical scene in our neighbourhood.

The author, King C Chen, is professor of political science at Rutgers University. He is also author of the definitive study 'Vietnam and China - 1938 - 1954 (Princeton University Press 1969) as well as several books on the foreign policy of the Peoples Republic of China.

--Maj General S C Sinha, PVSM

War Without Fronts: The American Experience in Vietnam

BY THOMAS C THAYER

Published by Westview Press, INC, 5500 Central Avenue, Boulder, Colorado 80301, USA. (Available at Westview Press, 13 the Brunswick Centre, London WC1F 1AF (UK) 1985, Pages 276, Price £27.50.

This book is a unique source of information about US involvement in South Vietnam from 1965 to 1972, more so as THOMAS C THAYER was

Chief of Operations analysis division in Vietnam for over three years. It is important for us to study this campaign. US had over 5,50,000 men in Vietnam and paid a price of 58,000 dead.

The Communist habits in combat were well defined and repetitive. They fought in a careful, rigid, doctrinaire fashion with much planning, and rehearsal. The troops had little education but the Communists overcame this by potentially training, each soldier to perform one or two specific functions as part of a team. The result is a soldier who can have a devastating effect, in an attack.

The French strategy was lacking in aggressiveness, defensive and of doubtful value having not won a war since Napoleon. The French deployed 2,50,000 soldiers and total death in eight years were 95,000.

The basic pattern was heavy fighting from February through June, a lull in July, renewed combat in August, September, a lull in October, followed by relatively low activity until February.

The Americans learned little from the French experience, although there was much to be learned, particularly at the tactical level. The Communists tactics were as follows:-

- (a) Intimidation of the people.
- (b) Elimination of enemies.
- (c) Propaganda
- (d) Terror was used as a tactic to isolate the rural areas from the cities.
- (e) Terror in the cities.

The effect of interdiction and bombing is best summed up by the Secretary of Defence Robert S McNamara "A substantial interdiction campaign is clearly necessary and worthwhile.... but at the scale we are now operating, I believe our bombing is yielding very small marginal returns, not worth the cost in pilot lives and aircraft."

The Herbicide Spraying operation could not have caused catastrophic devastation because from 1962 to 1970 herbicide was sprayed on less than ten percent of the land area. Three percent of the population lived in defoliated areas and less than one percent lived where crops were destroyed.

One important fact about the war in Vietnam is that the enemy could control his casualty rate, at least to a great extent, by controlling the number, size and intensity of combat engagements. If he so chose, he could limit his casualties to a rate that he was able to bear indefinitely. One such way for

the Communists was to mass their forces to exploit favourable opportunities while tying down Allied forces by using small forces to attack and harass outposts, roads, waterways and the population. Such a strategy, combined with the use of night operations and thousands of stand off attacks by fire, went a long way towards neutralizing allied advantages. The cost in Communist lives was high but controllable, and the Allies were not able to turn their decisive resource superiority into a decisive military advantage.

Nine percent of the American Combat dead were in aircraft losses. 40 percent died of gunshot wounds and 45 percent were killed by some form of indirect fire. It is likely that fewer Americans would have been killed if the terms of duty had been longer.

The civilian casualty was 2,00,000 killed. The Communists systematically attacked civilians. This is not to belittle the tragic losses.

The promise of land had a powerful appeal in South Vietnam and the communist concentrated on the rural population.

The South Vietnamese collapse and Communist victory of 1975 are now history. It happened with a speed that startled the world including the victorious, the vanquished, the American people and their leaders.

--Gen B D Kale (Retd)

A Vietnam Experience: Ten Years of Reflection

BY VICE ADMIRAL JAMES B STOCKDALE

Published by Hoover Institution, Stanford University, Stanford, 1984, Pages 147, Price \$ 9.95.

'A Vietnam Experience' is a unique book based on the personal experience of Navy Commander James B Stockdale who was shot down while flying a mission over North Vietnam in September 1965. He spent the next seven and a half years in a Hanoi prison, four of them in Solitary confinement.

His reflections on this experience and the reasons for his survival form the basis of the essays reprinted here. Admiral Stockdale survived torture, isolation and degradation because of his character and values. In this book he stresses on the need for a soldier to be mentally equipped to deal with a situation such as he faced - he must be trained to withstand pain, to develop inner resources that will help him in case he is captured.

As senior officer among the American P.O.W's in Hanoi he was responsible for maintaining the morale of the officers as well as defining a code of conduct. In this book he discusses the various aspects of this extremely dif-

ficult task. He deals with subjects ranging from methods of communication in prison, principles of leadership to military ethics. He discusses the role education plays in shaping the character of a man. It is during times of utmost stress that one's attitudes, principles and values help one to overcome feelings of utter hopelessness. This book gives first hand information about prison life and deals with its problems - emotional and physical: the practical problem of daily survival to the abstract one of maintaining one's sense of purpose and stability in an environment designed to break either or both. This book is informative, thought provoking and interesting. It is beautifully written and shows Admiral Stockdale's deep insight and scholarship.

It is a useful book because normally a Soldier is only taught to fight to win. The consequences of losing, withdrawing, or being taken prisoner is never part of training.

--Maj Gen G K Sen AVSM

Vietnam, the Naval Story

BY FRANK UHLIG, JR

Published by United States Naval Institute, Annapolis, Maryland, 1986, Pages 515, Price not given.

Mr. Frank Uhlig, Jr. of United States Naval Institute, Annapolis, Maryland, USA is to be congratulated for editing the book "Vietnam- The Naval Story" which contains 15 essays. These essays were written by the officers of the US Navy, the Marine Corps, the Coast Guard and the Merchant Marine who were either in command or held key staff appointments. As such it gives the readers complete details of what happened and how the operations were conducted. The essays are well illustrated with maps and photographs to enable the readers track the events intelligently.

The book covers in detail the parts played by the US Navy, the Marine Corps, the Coast Guard, the Civil Engineers and the Merchant Marine.

In a book of this nature, emphasis is usually on the role of combat forces and the contribution by the supporting forces is usually forgotten.

The editor is to be complimented for including two full chapters on the role of the Merchant Marine and one chapter on the part played by the personnel of the Medical Corps.

At any time, there were over half a million Americans in South Vietnam and hardly any one stayed there more than a year or so. The men of the Merchant Marine who were old and some in their seventies ensured that the United States moved and sustained large forces across the wide ocean.

It is interesting to note that the President of the United States did not use his emergency powers to requisition merchant ships and the owners voluntarily offered their ships to the Military Sea Transportation Service (MSTS)

The author has brought out that the American Flag Commercial Fleet had certain notable deficiencies like no beaching characteristics, no heavy lift boom capable of lifting more than 80 tons and not enough space for carrying LCUs. This is a great lesson for any future war in that the merchant ships be so built that on the out break of hostilities, these could be converted at short notice.

The task of the Medical Corps authored by Commander F.O. McLendon, Jr. makes interesting reading. To set up facilities to provide medical cover to over 5,00,000 people was an enormous task. USS *Repose* (AH16) and USS *Sanctuary* (AH-17) had about 1300 beds with all the facilities which are found in any modern hospital. The ships were stationed near the sites of action.

A fascinating book which gives the readers penetrating insights into all aspects of the long drawn war in Vietnam and the role played by everybody. The book brings out clearly the number of lessons learnt and relevant not only in the operational planning but also logistic support. Recommended reading by the officers of the three services, Marine Corps, Coast Guard and the Merchant Marine, in particular those responsible for planning and executing amphibious operations. A must for all defence libraries.

--Captain R.P. Khanna AVSM Indian Navy (Retd)

October 1973: The Arab Israeli War

BY FRANK AKER

Published by Archon Books The Shoe String Press INC. Hamden, Connecticut 06514, 1985 Pages 179, Price Not Mentioned.

Arab Israeli Wars have not only ensured the permanence of the State of Israel but also brought out valuable lessons. Some of these lessons have been trend-setters for the future.

The book covers in detail, the 1973 Yom Kipper War, which was the fifth in the Arab Israel series. The book is well printed and written in an easy lucid style, making interesting reading. It is well illustrated by maps covering important battles, organisations of the Arab Tank Division, Israeli Tank Brigade and also illustrated characteristics of the Arab and Israeli Armour, Aircraft and Missile Boats. The Appendix also contains the Order of Battle of Israel, Egypt and Syria. The reinforcement received both by Egypt and Syria from their Arab Allies; for instances, Iraq sent 3 Aircraft squadrons, Two Armoured Divisions and a Special Forces Brigade to the help of Syria

between 8 and 11 October and Arab Allies of Egypt also sent help. The book gives a blow by blow account of the war Israel had to fight on two fronts. As against the detailed preparations made by Egypt and Syria for 6 October the Israeli Army were more less caught with their washing hanging out on their Bar Lev Line. In spite of this initial handicap by the time the war ended, Israel claimed the laurels and once again proved its superior Generalship and the guts, grit and initiative of her leaders at all levels.

The War once again emphasised the perennial requirement of balance. We see clearly illustrated the centralised Arab Command and Control System, pitted against a decentralised Israeli structure. The latter approach was able to capitalise on and respond to, fleeting opportunities emerging periodically from a very fluid Battle-Field situation. The war would have been the Arabs had they made use of the initial advantage of surprise and shown more resilience and determination to act at lower levels.

The authors coverage is complete, to include operations on land, sea and air. Yom Kipper War as a military paradigm should inevitably be the subject of intensive study; specially for us in the Indian Defence Services.

--Brig Y P Dev (Rctd)

Saudi Arabia, The West and the Security of the Gulf

BY MAZHER A HAMEED

Published by Croom Helm Ltd., Provident House, Burrell Row, Bechenham, Kent, BRB LAT, 1986, Pages 189, Price £25.00

The Book was published in 1986, when the Iran-Iraq war was at its height. The author at the time of writing was Executive Director of the Middle East Assessment Group (MEAG) which is an independent public policy research organisation.

The Book is written purely from the point of view of the interests of the U.S.A., though interests of other Western countries are also mentioned in this context. Threats and dangers in the region are perceived from internal political, religious and economic conflicts and of course from the USSR which is always waiting on the side lines. The author visualises that once the USSR is free of its involvement in Afghanistan it would be able to pay more attention to its interests in the Middle East. However, in this Book he has not visualised the current political scene in the USSR or the unpleasant experiences gained by the Russian troops in getting involved directly in the internal guerrilla type of warfare in Afghanistan.

Typical of American political writers, India is not mentioned at all except for a statement that the Indian Navy has the largest force in the Indian Ocean

- but then the forces in the Indian Ocean are "external" to the Gulf (P. 58).

The economic interests of the USA are basically those of Oil. The collapse of oil prices means revival of oil consumption in the industrial world and consequently decline of oil production in high cost producing areas (P. XII) and so USA will be importing from Persian Gulf, as it will be cheaper to get oil from that area. Hence USA's dominating interest in Iran-Iraq conflict.

Financially the US policy has always favoured use of the dollar in international finance. The Middle East region uses the dollar as its principal means of exchange in petroleum and other commerce and so the USA will do its utmost to keep the region as a dollar area (P. XVI).

In the political sphere the author discusses the numerous regional rivalries among the countries in the Middle East. Rivalries based on availability and location of oil resources, religion and tribalism. Religion is seen as a major reason for conflict based on historical compulsions and a regression to religious fundamentalism rather than a progressive enlightened tolerance. Thus the Iran-Iraq conflict is seen as basically a conflict between the Shia's (Iran) and the Sunni's (Iraq). But the numerous other complexities of religious cum tribal ethnic origins which exist in the various middle east countries are described in commendable detail.

The Arab Gulf countries have made some headway in planning their own collective self defence. They have formed the Gulf Cooperation Council (GCC) which alliance consists of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE (P. XVII), but not yet the important Arab country Iraq which was fully occupied with the Iran-Iraq war. Incidentally it is these countries which supply the oil that makes the sustained combat power of NATO viable. These countries are considered by the West as "moderates", they are opposed in principle to the use of violence to effect change. They are treated as a reliable block against the Soviet Union and Iran (only Kuwait has long established diplomatic relations with the Soviet Union though Oman and U.A.E. opened formal relations in late 1985). Detailed tables and analysis of their combat forces are given in Chapter V. In fact the author has in this chapter dwelt on the quality of the defence forces including the psychological aspects of the troops, command and control structure, problems of loyalty to tribal chiefs rather than to the country's leadership, very well. He also dwells in some detail on the problems to the countries of expatriate workers who in 1985/86 outnumbered the native population in Kuwait, Qatar and the UAE. These workers comprised 50% of the five key economic sectors in Saudi Arabia namely construction, electricity, finance, manufacturing and trade (P. 48).

The author sees as the principal threat in the region, in terms of USA interests, the Iran-Syria combine. Particularly as Iran (at the time of writing) believes in organising International terrorism.

The author, therefore, makes out a strong case for supporting Saudi Arabia in every possible way due to its political stability, oil resources and the importance of Mecca in the Islamic World (P. 23-27). And for the USA to increase its support to Iraq as another predominant Arabic country. (The end of the Iran-Iraq conflict should therefore usher in an increase in US support to Iraq which would conflict with USSR's interests).

The book is useful for research scholars and for Government officials manning the Middle East Desks in the External Affairs and Economic Ministries and for public and private enterprises who have commercial interests in the region.

--Maj Gen R L Chopra PVSM

The Royal Navy and the Falklands War.

BY DAVID BROWN

Pub. By Leo Cooper, 10 Upper Grosvenor Street, London W1X 9PA(UK) 1987, Pages 384, Price not mentioned.

The Falkland war was fought in 1982 by the Royal Navy far away from home port in the southern part of the Southern Hemisphere. The book records all events faithfully after a thorough research by the author for five years.

The operations were planned in short time but due to the experience in crisis management system developed in the Navy Department over the years, the ships with varying state and from different areas were pulled out and deployed. The ships which were decommissioned recently were commissioned and those due for long refit were given short repairs and put to sea. Naval officers and civilians surveyed, requisitioned and converted merchant ships and co-ordinated ad-hoc trials to prove tactical and technical improvements and advise on their front line use. The manner in which the dockyards responded is a tribute.

The ships deployed were put through the tactical and other training by work up by the training staff when the ships were on passage to Ascension Island in the Atlantic and in some cases when the ships were proceeding to the operational area.

Indeed never before such a distant operation has been controlled and followed in "REAL TIME". This was possible due to the availability of satel-

lite communication, morse transmission and signal distribution. Admiral Field House and his staff were in firm control of overall campaign with its many interwoven and independent components under the general direction of the Chief of Staff who was responsible to the War Cabinet through the Chief of the Defence Staff.

The ability to improvise has been clearly reflected when the repair of ships damaged in action or otherwise were carried out at sea by ships' staff assisted by the Repair ship. Some of the lessons learnt during the operations helped them to find the answer and that was put into effect in the true maritime tradition of the Royal Navy.

The naval ships were used very effectively for their designed role and continuously moved to accomplish variety of tasks in the time available.

The task for Argentina was made easier particularly for their Airforce due to availability of VYCA 2 Radar in Port Stanley. The ships of the Royal Navy could be found around the island. The task of locating by air strikes from the main island in high low level approach over the land mass was most effective and took heavy toll of the ships of the Royal Navy. This would have been heavier if all the bombs which hit the ships had exploded. The Royal Navy's deficiency in not having low level either air borne or ship early warning radar system was glaring.

Ascension Island in the Atlantic was used as an advance base for fuelling of aircraft and ships. Storing of ships with war time stores and essential repairs were undertaken by make-shift arrangements. This island was also used as Air Base for reconnaissance. As large number of civilians were involved the "Active Service" status was granted to the crews of merchant ships, NAAFI, laundry men and media correspondents on board. This war was unique in the sense that ships remained at sea continuously and were kept in high operational state by very effective replenishment from ships of the Royal Navy under Blue Ensign and requisitioned merchant ships. The replenishment of stores and personnel was also done by air dropping in the designated sea areas. As task groups and units were spread over large sea areas, the replenishment tasks were complicated. In addition special efforts were required to keep the invasion forces fully supplied by men and material at different points to fight the land battle.

The book brings out very lucidly the contributions of the Carrier Group in achieving air superiority in the operational zone and maintained the same throughout the operational period of eight weeks. It also records saga of endurance and bravery of men manning the ships.

Efforts put in the terms of air launch from the carrier of Naval and RAF

Harriers has been the highlight of the operation. Royal Air-force contribution in carrying out the bombardment of Port Stanley from the United Kingdom supported by mid air fuelling with turn round time of 24 hours is indeed praise worthy.

The multiplicity of authorities was a big drawback in the operations, as much effort was wasted resulting in self injury. The inability of the Royal Navy to locate and destroy V.Y.C.A II radar set at Port Stanley area was a serious drawback.

Land operations have been covered briefly and it gives the impression that the land operations were carried out in rather a slow motion.

Press played an important role in keeping the public informed. Even though sometimes the Press Releases resulted in additional casualties to own forces, the authorities did not impose stricter censorship, relying on their self imposed discipline. The book does not clearly reveal the process of formulating the operational plans nor it spells out command control system and communications net work. Any naval officer would do yeoman service by carrying out a study in depth and analysing the system followed during the operations.

The deployment of the submarines in support of the entire operations has been kept a secret. The inability of the Argentinian Navy to plan any role whatsoever except to lose their battle ship is a tribute to the submarines.

This book should be read by serving naval and airforce officers. If it is read by media personnel, it would help them understanding and projecting correct picture about naval operations.

This book should find a place in all the naval and airforce libraries.

--Captain C.M Vyas N.M Indian Navy (Retd)

CAMPAIGN IN RUSSIA -The Waffen SS on the Eastern Front
BY LEON DEGRELLE

Published by Institute for Historical Review, PO Box 1306 Torrance, California 90505, 1985. Pages 353 \$ 17.95

The book recounts the experiences of the author during his service with Belgian Volunteer Force deployed on the German Eastern Front between the period Oct 41 to the end of the second World War - May 1945.

A word about the author - Born 15 Jun 1906, Degrelle has been a prolific writer from the age of fifteen. He joined politics in his youth. In 1929 at the age of twenty three, he took up editorship of a paper *Le Siecle* (The Twen-

tieth Century) and in 1930 he was appointed director of Les Editions Rex, a publishing house closely affiliated with the Catholic youth movement in Belgium, a paper he finally bought out in 1931.

Degrelle was arrested at the outbreak of the Second World War. Released by the Germans, Degrelle volunteered to raise a Wallons battalion so as "to ensure a place of honour for French speaking Belgians in Hitler's new Europe". He started his service as a private in the volunteer force and rose to be Divisional Commander by the last stages of war. He reportedly, was wounded seven times. "A veteran of a hundred desperate hand-to-hand combats, holder of Knight Cross with oak leaves, he is the most highly decorated foreign volunteer."

The book deals with Military operations of Wallon Voluntary Battalion commencing from the time the German offensive for the Ukraine was underway. The German advance was slowing down as neither Moscow had been taken nor Leningrad had fallen and the situation on the Rostov front was unclear. The Wallons crossed River Dnieper but advance towards Dnepropetrovsk (which was further 200 km East and where German spearhead had reached) was heavily interfered with by the local partisans resistance, who skillfully used the cover provided by massive forests. The battalion was ordered to deploy astride river Donets and keep the corridor free of enemy interference. Throughout the winter of 1941-42 when the German advance was halted, the Russian partisans kept up lively skirmishes along the parameter held by German Forces. Russians launched an offensive in the Donets sector and by Feb 42 had advanced within a few kilometers of Dnieper. The Germans managed to check the advance but Russian pocket remained, which had to be cleared by ground assaults in which the Wallons participated. Good accounts of company sized actions lucidly bring out the battle against the elements and a physically robust enemy.

In May 1942, this force was thrown into the German offensive aimed northwards to Kharkov. The troops suffered great physical discomfort because of high temperatures. Upto 55 C, and sickness brought about by unhygienic conditions and undisposed casualties of men and animals. The rains turned the terrain into a bog and mire.

In June 42, a southward thrust towards the Caucasus was launched with the aim of capturing the Black Sea port of Tuapse. The Wallonians after brief respite were again pressed into service from Jul 42. The offensive progressed well crossing Kuban river. However, having lured the German forces, the Russians who had disappeared in the jungle, cut back and reappeared at the rear of the Germans. It was now mid Aug 42. The German forces fell back but the Wallons held their advanced position at Tyreyakov.

In Oct 42 Caucasian offensive was resumed. The advance was bitterly opposed by Russians using the virgin Caucasian forests. The offensive was blunted at the last hill barrier and a wild tempest setting in thereafter rendered continuing of the offensive out of question. The troops dug in 10 km short of their final objective.

The force was relieved in Dec 42 to go back for rest and recuperation.

In Nov 43, Assault Brigade Wallonia, was inducted in the Eastern Theater at Dnieper. The Russian resistance had stiffened and now they were taking the offensive. The book records accounts of numerous attacks and counter-attacks to regain tactical advantage and Herculean efforts at keeping the defensive parameters from being infiltrated and resolute rear guard actions to permit the withdrawing German forces to escape the ever chocking Russian pincer. The Wallonians are repeatedly given the difficult task of acting as rear parties, a task they perform with remarkable success, despite overwhelming odds of terrain, temperatures and enemy assaults:

The force was reorganised as SS Wallonia Division. The Russian Summer offensive of 44 was rolling towards Berlin Ukraine had fallen, the offensive had swept through Minsk, reached the frontiers of Lithuania and Prussia and seized half of Poland and was nearing Warsaw. Estonian sector was also threatened by a subsequent Russian thrust. Now commences an account of repeated reverses along the Estonian front where Assault Division Wallonia was deployed - through confusion of a fast crumbling front the Wallonians retain some semblance of order and through repeated acts of personnel bravery attempt to hold a disintegrating front. The end comes in May 44.

General Degrelle manages to escape, a day before the surrender of German Army become effective, to Spain via Denmark and Norway where he ends his journey surviving the crash landing of his aircraft.

The book makes an interesting reading, and is of help as additional material for the study of military operations on the Russian front.

Absence of maps is a major handicap in following the narration.

Degrelle writes with a powerful pen and a fertile imagination but anti communist passions seem to colour his account. The author seems to have enjoyed a charmed life throughout the four years of fighting; not only he survived the extremes of Russian winter on the open steppes in clothing unsuited to extreme cold climate but countless hand to hand skirmishes, assaults against resolute enemy, strafing, shelling, snipping, and so on. An invincible and indomitable soul who never gave up or quit the battle, be it broken ribs and lacerated abdomen, fractured foot or raging fever of 40°C, never failing

even when attacking well entrenched enemy with a handful of his comrades in tow!

--Maj Gen. Surinder Nath AVSM VSM

A History of British Cavalry - Vol 4 1899-1913

BY MARQUESS OF ANGLESEY

Published by Leo Cooper Book in Association with Secker and Warburg Ltd., 54 Poland Street, London W1V 3 DF (UK) 1986, Pages 565, Price £35.00

The book is the penultimate volume of a five volume history of British Cavalry and deals with the vast employment of cavalry in the Boer Campaign. The Campaign itself had two clear phases, the regular battles in the first half and guerrilla type of warfare waged by the more resilient Boer leaders in the later half. Though both these periods the Regular British Cavalry as well as the irregular units raised or contributed specifically for this war, were extensively used, and in some cases abused. Through a railway line was available in the area, the motor transport had not come into use for troop or stores movements. Therefore the number of horses, mules and pack oxen employed, were enormous. Very pointedly, attention is drawn to the frightful wastages of these animals due to sustained nature of rigorous operation, no rest for the animals and lack of forage. For a generation attuned to motor vehicles, the feel of this type of carnage is pretty revealing.

The narrative is factual and authentic and is not concerned with the general conduct of the war: it limits itself to operations of the mounted arms. It is amusing to go through the controversy about the mounted infantry operations vis-a-vis the effectiveness of Regular Cavalry. Although the form of locomotion of mounted infantry and Cavalry have changed, there is no let up in this controversy even today. The more changes that are brought the more the army remains the same.

A graphic and detailed account of the British Cavalry at the start of the 20th century and upto World War I. The war saw French, Kitchener and Haig emerging as energetic Commanders but more importantly focuses on a relatively unknown Inspector General, Major General Truman as the most important man responsible for successful conclusion of the campaign. His imagination and untiring effort to provide the required horses and mules is rated as the most important single factor responsible for the British winning this war.

A readable piece of Cavalry literature, though a bit voluminous.

--Lt Gen. S.P.M. Tripathi AVSM

A Nation in Retreat? Britain's Defence Commitments

BY CHRISTOPHER COKER

Published by Brassey's Defence Publishers Ltd., Maxwell House, 74 Worship Street, London EC2A2EN, 1986, Pages 154, Price \$ 19.50.

The Book pertains essentially to Britain's Defence Commitment, covers 154 pages and has been written by Christopher Coker, Professor of London School of Economics.

The Book represents a distillation of some of the views Christopher developed over some half a decade about British defence policy which has been observed by the Author at much closer hand than events might otherwise have allowed.

Writing of the 1962 Defence White Paper, the Economist observed that the psychology of declining power is not to choose but to wait upon events. Christopher opines that Britain is not longer in a position to do so. He paints a black picture of British Defence policy since 1945. Successive governments have failed to face up to the realities of managing defence of modern Britain and its place in the world. Instead, confronted with a multiplicity of defence roles to perform and inadequate resources, government have reacted in a piecemeal fashion - instituting cuts which have stretched Britain's forces to a breaking point, followed by a major retrenchment in strategic responsibilities followed by another bout of cuts - a debilitating process which has left the country and NATO - weaker and if this goes on, there will be a crisis.

It is in this context that Coker examines the defence options currently being debated amongst the major political parties. It is the first study of British political parties attitudes towards NATO, as well as the first to focus on exclusively political, rather than military or financial, credibility of alternative defence policies. An important feature of the Book is the attention given to the obligations entailed in the membership of an alliance, obligations which tend to be overlooked all too often.

The author makes no attempt to persuade the readers that the policies of our party are to be preferred to those of the other. The Book has been written with pro-NATO perspective and would be useful to MPs of British parliament and in that context to the scholars of International politics.

--Maj Gen. K.L. Kochar PVSM

The Indian Ocean: Perspectives on Strategic Arena

BY WILLIAM L DOWDY AND RUSSELL B. TROOD

Published by Durham, Duke University Press, 1985, Pages 613, Price US \$ 55.00(Cloth) 19.95(paper)

Since the early 1970s the Indian Ocean which was once known as British lake has turned into a cockpit of super power rivalry. Both the USA and the Soviet Union have vital strategic interests in the Indian Ocean region, which was clearly indicated by the presence of more than 100 warships including aircraft carriers and nuclear armed submarines throughout the 1980s. The Soviet military intervention in Afghanistan, the fall of the Shah of Iran and subsequent Iran-Iraq War have further enhanced the strategic importance of the region to the superpowers. The raising of the US Rapid Deployment Force followed by the establishment of US Central Command in the region to plan and conduct military operations in support of its allies and friends and to protect its own vital interest confirm the US concerns in the Arena. After the fall of the Shah of Iran, a greater strategic understanding with Pakistan was a natural follow on of this concern.

"Indian Ocean: Perspectives on a Strategic Arena" edited by William Dowdy and Russell B. Trood is the outcome of a conference on the Indian ocean held in Halifax, Nova Scotia, Canada on 12-14 October, 1982. The Conference was sponsored by Dalhousie University's Centre for foreign policy studies in collaboration with the Western Australian Institute of Technology. Participants included scholars and Government officials, with professional interests in the Indian Ocean region from Canada, the United States, Western Europe, and several Indian Ocean states. The contributors to the articles include RK Ramzani, Colin Legum, Mohammed Ayoob, Ashok Kapoor, Raju Thomas and Tareq Ismael.

The articles in the book discuss the strategic perspectives on a subjectwise and regional basis. To begin with, there are important subjects like ideologies, economics and strategic interdependence, superpower global condominium, naval developments and arms limitations prospects. Sub-regional issues of strategic importance are covered separately for Persian Gulf, the Red Sea, East Africa, South Asia, and South-East Asia. The final chapters deal with the interests of external powers which include, the USA, Soviet Union, Western Europe, Japan and China.

In its concluding article on trends and prospects of Security in the Indian Ocean Arena, the author does not indicate any optimism about the region achieving the status of a "zone of peace" without first bringing about improved bilateral relations between the two superpowers. To quote from the book:

"This leads to a rather dismal conclusion. If it is true that a salient feature of Indian Ocean Security is to be found in the structural relationship existing between indigenous concerns and external presences, and if it is also accepted that the super-powers have a Janus-like quality, being both part of the solution and part of problem, then it is unlikely that this structural problem can be overcome while the superpower relationship remains tense and strained."

This book is a useful addition to the growing literature on one of the most important strategic regions of the world and of vital security concerns to the super-powers as well as to the littoral states. The articles in the book cover the entire field of political, social, strategic, and economic issues which affect the security perspectives of the region and will be of value to the Indian students and others interested in this important strategic area for India's Security.

--NBS

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